



PHASE

A Newsletter of Skaggs Center Internships

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Interview with Alice Shen



INTERVIEW WITH ALICE SHEN, GRADUATING HIGH SCHOOL STUDENT FROM FAIRVIEW HIGH SCHOOL IN BOULDER – INTERVIEWED AUGUST 20, 2009, BY ANN THORNE AND TONY TAFOYA.

Ann: How did you become interested in NOAA?

Alice: In high school I took every available advanced science class. In high school it's all about learning the theory and doing labs that have the correct answer. I wanted to see what real scientists do, professional scientists. I'm thinking about a double major in college, perhaps in a science field. I wanted to see if this internship would give me some insight into what a profession would be like and whether or not I would want to major in it. Climate

change is such a huge issue right now in public policy that is affecting so many things, and NOAA is right in the hub of trying to figure this issue out. I thought this was an exciting opportunity.

Ann: How has this panned out for you, and has it affected your thoughts about double majoring?

Alice: Yes. I'm actually thinking about double majoring now in economics and math. I'm seeing how important math is in modeling especially. I had a really good experience this summer working in the laboratory and seeing how measurements are taken, and what it takes to execute a mission, the preparation that is needed, and the importance of verifying data, because it's a big deal when different measurement methods get different data when they're the same gases in the atmosphere.

Tony: Where did you work?

Alice: I worked in the Halocarbons and other Atmospheric Trace Species (HATS) group under Dr. Jim Elkins. The people there are just great. I worked with David Nance and Geoff Dutton. We worked under pressure and tight deadlines and I'm ok with that.

Tony: Where did that come from - your school, your parents?

Alice: From school, definitely. I was an International Baccalaureate. I got a diploma. Gosh, that

was so much work. I got used to working under pressure and meeting deadlines.

Tony: I gather that you had a good support group at home.

Alice: Yeah, with my parents. Actually my parents pretty much let me do what I want. I'm pretty independent. They know I can take care of my own responsibilities.

Ann: Did you always have a strong interest in school?

Alice: Yes, academics were always a priority with me. I branched out though. I'm really an active person. In high school I did competitive swimming all four years. In my senior year I ended up getting academic All American and varsity letters.

Ann: (Alice will be attending the Wharton School of Business at the University of Pennsylvania.) What helped you get in? I'm sure your IB Diploma helped. What else helped?

Alice: In the admissions process they look at so many things. Academics and test scores are, of course, the first things they look at, but they also look at extra curricular things. Basically how much have you taken advantage of the opportunities that you have had? How have you shown leadership and how have you distinguished yourself from your peers? I think that is what got me in. I had quite a lot of leadership positions in high school, and I did a lot of volunteer work. I was president of the National Honor Society. I did a lot of things with Asian American groups like educating other students on overcoming adversity. In my senior year I got involved with the school board. I was on the student accountability advisory committee.

Ann: What did they do?

Alice: High school students from around the district were like their own board, and we approach our own issues from a high school perspective. We do research and come up with a plan and present it to the school board. It is a recommendation on how we can improve our schools.

Ann: So what kind of topics did you come up with?

Alice: I was actually chair of the environmental committee. We focused on conserving energy. We wanted something that was doable, simple and cheap, like having lights that turn off when no one is in the room. We were trying to get compost introduced into the cafeteria system. This was our big issue. It will be something for the board to think about.

Tony: So you are going into the school of business? What area of business?

Alice: I am going to double major - economics and math. I would eventually like to go to graduate school and get a PhD in economics. You are probably wondering what does this have to do with NOAA? What I have learned working here this summer is that the atmospheric sciences, especially, are important when it comes to global warming. That and business economics are going to merge. I believe that global warming is hugely tied into economics. I would like to find a career where I could deal with the policy aspects of what we should do or the modeling aspects or taking the scientific data and applying it to the economy and seeing what will happen.

Tony: Of course you know that China is going to be a big player in the future. Are you also going to minor in Chinese?

Alice: I love taking languages. I am lucky because I am Chinese American. I can speak Chinese, and I am going to take a special class in reading and writing that is designed for people like me. Reading and writing is very difficult. It is totally different from western languages. I can read and write some now but it is not good enough to conduct business.

Tony: You know that NOAA has an office of international affairs. There are the State and Defense departments that would be interested in you.

Alice: Time magazine came out with an article on Steven Chu, who is the current Secretary of Energy. The article said that the Chinese government and people are more accepting that global warming is a real issue than are Americans and their government. The article said that China is willing to do something about the problem. Whereas here, many people think that global warming is not happening. There are politicians who are aiding in that thought. A lot of Americans believe that global warming is on the bottom rung of the ladder in the hierarchy of what the government should be doing.

Ann: Could we have done something to improve your experience this summer?

Alice: Because I obtained this internship in a different way through Workforce Boulder County, I didn't have a specific project. Having one could have made the experience a little better. I just did whatever they asked me to do. It was a combination of programming, web design, creating a poster, putting together instruments, and soldering.

Tony: So you were treated almost like a peer and not like a go-fer?

Alice: The group was wonderful. They wanted me to do things that were useful and actually teach me things that would help me in college.

Ann: How did your perception of what a scientist does differ from reality?

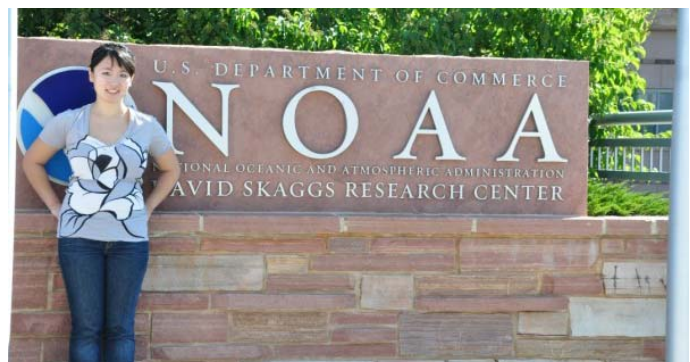
Alice: A lot of things actually. I learned about the airborne missions, working in the field and taking measurements. I did not realize the many things that can go wrong with instruments when gathering the data. I learned how much time you can spend fixing little things that can totally mess up your data. I worked with Fred Moore and did basic integration with schematic graphs. If a little filament burns out, which is what happened, scientists go through many steps to get good data. In high school we did a little calibrating. Here we do calibrations for the whole world. I learned the importance of collaborating with others so that the science will be true. It is so complicated to verify the data. I have an appreciation for team work.

Ann: What will make you a good scientist?

Alice: Persistence, staying calm and figuring out what is wrong, and paying attention to detail.

Ann: Why have you succeeded?

Alice: The home environment. Some parents have no knowledge of what their kids are doing. In Boulder many students feel pressure to do better than their parents and they give up because they will never measure up to the accomplishments of their parents. I have earned my parent's trust and have learned not to lose it. Some parents are too lenient and their kids get into drugs and alcohol. I am pleased with where I am today.



SCENES FROM THE SACNAS ROCKY MOUNTAIN REGIONAL MEETING AUGUST 28-29, 2009, DENVER, COLORADO

The Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) meeting offered the following opportunities for college and high school students in the Rocky Mountain states: Networking, STEM Career Exploration, Conversations with Scientists, Leadership Development, Research Ethics, Graduate School Information, and Student Research Presentations. (More details in October's issue.)



The Tivoli Student Union was the site for the SACNAS Rocky Mountain Regional Meeting.



John Emhoolah, Kiowa, delivered the blessing for the opening ceremonies.



Ann Thorne, 3rd from left, joined in the discussion of strategies for developing SACNAS chapters in Colorado.



Dr. Karen Bleeker, President, Community College of Denver welcomed SACNAS students as Conference Co-Chairs Maximiliano Vallejos and Yeni Garcia enjoy one of her comments.



Dr. Stephen Jordan, President, Metropolitan State College of Denver and Dr. Zen Camacho, University of Colorado, Vice Provost/AVC for Diversity and Inclusion, Office of Diversity and Inclusion, looking on prior to their welcoming remarks.



The Objectives of the ESRL Intern Program

- A. To seek a broad development and expansion of internship opportunities for high school, college and graduate students and high school teachers.
- B. To assist and encourage NOAA organizations in establishing goals and identifying the best possible sources for the recruitment, employment, training and advancement of student Interns.
- C. To encourage and actively support the promotion and advancement of Interns already employed.
- D. To analyze and determine the educational and professional needs of students seeking entry and advancement in employment; and, whenever possible, provide appropriate training and counseling services to meet these needs.
- E. To establish and continually upgrade a broad range of contact with supervisors and Interns across the country via personal visits, telephone calls, e-mails, and periodic newsletters.
- F. To respond to the reasonable requests from non-NOAA groups for student referrals when their objectives are supportable and similar to the ESRL PHASE program.
- G. To enhance the promotion of student excellence, pride, and camaraderie through organized and regular social gatherings which will serve to bind students together.
- H. To provide a forum for major research issues of local and national significance so that students may be better informed and may express their views through seminar presentations before their peers and supervisors.

Key Advisory Board Functions

The key functions performed by the PHASE Advisory Board include: **Advocacy on Employment and Education Issues**, **Membership and Outreach**, and **Consultation with Students and Supervisors**. The following is a brief description of each function:

Advocacy on Employment and Education Issues

The advocacy function is performed when advisory board members take a pro-active role in seeing that an employment related issue is addressed by the appropriate community, education or government organization. This function typically involves the following: assisting students and parents with local school issues, e.g. summer jobs, internships, grades and course requirements; informing the local community on student internship opportunities; and researching employment opportunities and various employment related topics such as housing, travel, and community demographics.

Membership and Outreach

The membership committee is charged with an ongoing program of recruiting and retaining members of the Advisory Board. This involves coordinating a yearly membership drive for new members. The outreach function is performed by going out into the community to explain NOAA internship programs and communicating the assistance that can be provided. Typically, this function involves attending meetings and briefings, networking with NOAA agency representatives, providing orientation briefings to newcomers, attending training sessions and education workshops - both as participants and presenters.

Consultation

Consultation services are typically private and are provided to students, parents and teachers who need explanations related to PHASE documents and procedures. This function typically involves mediating an issue at the lowest level before it escalates and assisting the ESRL Student Coordinator with employee issues.



***PHASE* is a publication
of the ESRL Student
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PHASE seeks to inform
employees and students on
employment programs and
internships.

Editors: Tony Tafoya and
Ann Thorne

MISSION

The mission of the Practical Hands on Application to Science Education (PHASE) program is to have students benefit from a science intern program at a Federal facility.

The objectives of the program are (1) for laboratories to identify student projects that provide a learning environment and focus on practical hands-on activities; (2) to provide laboratories with profiles of students who have an interest in considering NOAA and science in general as a positive career choice; and (3) to inform students of career opportunities in NOAA.

For more information visit: PHASE@noaa.gov and esrl.noaa.gov/outreach/student_programs

STUDENT CONFERENCES OF INTEREST

SACNAS
Rocky Mountain Regional Meeting
August 28-29, 2009
Denver, Colorado

MESA Advisor Retreat and Kick Off
Exhibitor Resource Fair
Friday September 11 and
Saturday, September 12, 2009
10:55 a.m. through 2:30 p.m.
College of Engineering
University of Colorado at Boulder

NOAA Educational Partnerships Program
The Fifth Education and Science Forum
November 12-14, 2009
Hosted by:
NOAA Center for Atmospheric Sciences
Howard University, Washington, D.C.

COLLABORATING ORGANIZATIONS

GOVERNMENT AGENCIES:

NOAA/OAR/ESRL
NOAA/NWS/SWPC
NOAA/NESDIS/NGDC
NIST
NTIA
Workforce Boulder County

HIGHER EDUCATION:

University of Colorado/CIRES
CU SORCE Program

COMMUNITY:

SACNAS
MESA
AISES
National Image, Inc.
Blacks-In-Government (BIG)

SCHOOL DISTRICTS:

Boulder Valley (BVSD)
St. Vrain Valley (SVVSD)



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