Community News

Future space leaders

SHARP students spend summer at JSC

By Marissa Carrillo

SHARP students take a break from their activities to pose for a photo at the University of Houston. Shown here, from left, are Alison Carey, Adrienne Ashford, Steven Mays, Danika Chevalier, Matt Spena, Cindy McReynolds, Travis Fischer, Nazer Taqvi, Junius Taville, Crystal Henderson, Jo Anna Castilleja, Jose Rivera, Kent Morris, and Casey Johnson.

Among the many students at Johnson Space Center this summer, there are 23 exceptionally brilliant young women and men. Eighteen of the students are here as part of the Summer High School Apprentice Research Program (SHARP), while the other five are here from the Texas Academy of Mathematics and Science.

Both groups of students are making a dream of a lifetime come true, working at NASA at the age of 16. While at JSC for eight weeks during the summertime, the students work with a mentor on a project. Projects range from computer programming to creating guideline handbooks. During this time, students gain valuable knowledge and experience that a student would not typically be exposed to until their college years, if even then.

In addition to the research exposure, students participate in a variety of enrichment activities. This year the students have attended a technical presentation class, toured the University of Houston, Rice University, Neutral Buoyancy Lab, Advance Ion Propulsion Lab, Advance Space Suit Development Lab, Mission Control, Ellington Field, X-38, TransHab, and United Space Alliance.

This year's students include Adrienne Ashford in Medical Sciences Division; Alison Carey in Life Support and Habitability; Jo Anna Castilleja, Shelonda Hughes, Danika Chevalier, and Nazer Taqvi in Information Systems Directorate; Travis Fischer in Intelligent Systems Branch; Crystal Henderson in Energy Systems Division; Casey Johnson, Stuart McGregor, Steven Mays, Sarah Solis, and Matt Spena in Advanced Operations Development Division; Cindy McReynolds in Avionics System Division; Kent Morris in Crew and Thermal Systems Division; Jose Rivera in Biomedical Hardware Development and Engineering Office; Junius Taville in Structures and Mechanics Division; Rory Mallard, Guadalupe Rodriguez, and Frederick Woods in Manufacturing Materials Process Technology Division; Eric Kuban and Michael Priolo in Aeroscience and Flight Mechanics Division; and Chris Ezell in Automation, Robotics and Simulation Division.

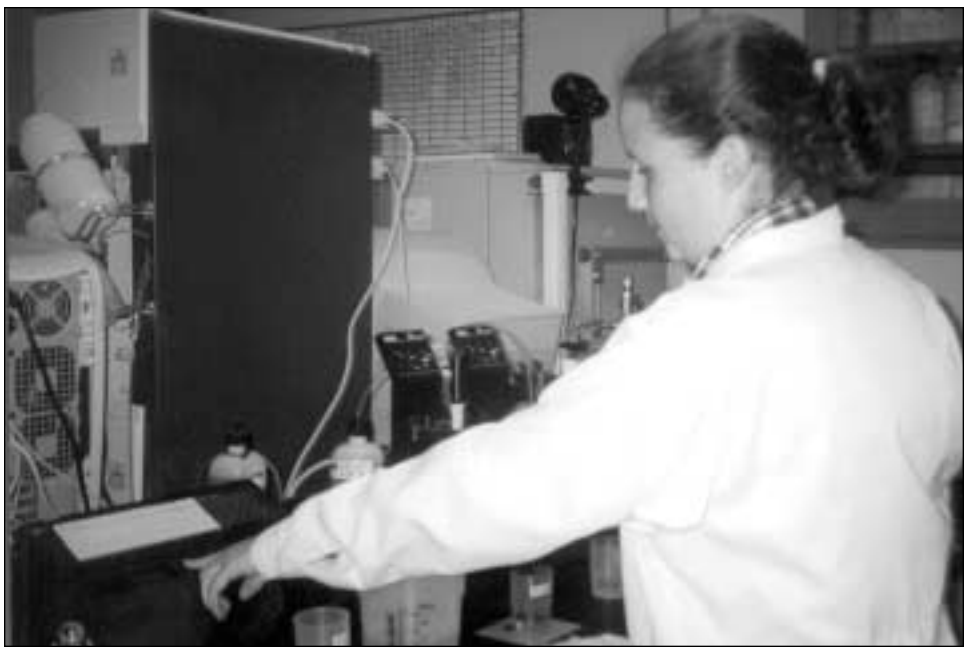
A special thanks goes out to the mentors who have spent their priceless time with our future scientists. This year's mentors include Karen Pickering, Leroy Villarreal, Dennis Lawler, Michael Downey, Kevin Tones, Anthony Griffith, Carl Martin, Mike Rouen, Albert Rodriguez, Tracy Minish, Chris Hansen, Raymond Aronoff, Ervin Grice, Dan Petersen, Carolyn Krumrey, John Clack, Steven Gonzalez, Jay Estes, Chris Lovchik, and Al Feiveson. Without their patience and expertise, this program would not be the success that it is.

This is the 20th anniversary for SHARP. The program was initiated in response to a presidential directive for all federal laboratories and research facilities to establish a summer apprenticeship program for underrepresented students in the fields of mathematics, science, and engineering. In 1980, NASA implemented the Summer High School Apprentice Research Program. While the program is geared to underrepresented populations, it is not limited. To this date, more than 2,700 students have participated in the program, with 90 percent completing college. This summer, 200 high school students took part in the program across 11 NASA field installations throughout the nation.

To apply for SHARP, students must fill out an application with letters of recommendation from a math and a science teacher. In addition to evaluating these letters, students are ranked based on their grades, number and type of math, science, and technology classes taken, number of honors/AP classes taken, extracurricular activities, community service activities, career/educational aspirations, and their ability to communicate verbally and in writing. This year, JSC received approximately 125 applications and accepted only 14 new students into the program. ■

A student reflects on the SHARP experience

By Alison Carey



Alison Carey conducts tests on water in the lab in Bldg. 7.

Before I started to work for NASA, I knew some things about it. For instance, I knew about when it was founded and about the rockets and shuttles. I also knew about the astronauts and scientists, and I knew that some of the most brilliant people in the country worked there. However, I didn't know that some of the nicest and most easy-going people I have met worked there. I read in a survey that people employed by NASA were the happiest of the people who work for the government.

Building 7, site of the water recovery system, became my home away from home. I worked in the laboratory learning scientific techniques from the professionals. I learned how to take all sorts of scientific measurements and how to be a real scientist. I would write all about what techniques make a good scientist, but they are top secret, protected by the government.

But more than technique, I learned about life and what science means to humans. I learned that the water recovery system will not only allow mankind to go to Mars, but will also provide clean and safe drinking water to places that have none. I learned that science will struggle and it will fail, but it will never cease in its existence. Science is the only way to improve life. The deprivation of science will result in human extinction. As a human race, we must continue to strive and we must set ourselves on a quest for our object of prolonged endeavor: scientific greatness.

I also learned that to be a scientist, you must be willing to fail. But there is a fine line between failing and quitting and this line can only be deciphered by an achiever. As Werner von Braun once said, "Often you learn more from a failure you can analyze than from an accidental success." This experience has taught me that as much as I'd like to complain to a science teacher, "We are never going to have to know this in real life," every bit of information is useful.

I realized that reading about chemistry in a book and mixing your own standards are completely different. Sure, anyone can read about science in a book, but that's not being a scientist. A scientist is in search for answers, analyzing data over and over until a pattern is found. A scientist will take every precaution for his or her work. A scientist's final work is not persistent or accurate. It is perfect. Science does not require a Ph.D. or a 100,000-dollar salary. Science is in the mind of a person who can imagine something greater and abstract and through hard work, turn that into a reality. A scientist is the product of curiosity. ■