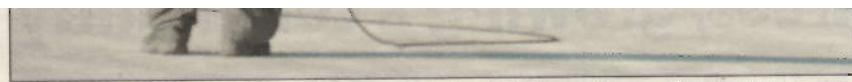


1999, while it was assigned to Royal Air Force Mildenhall, England, during Operation Allied Force.

Many members of the 58th and 550th, where the Talon II has been assigned at Kirtland, told of similar ties.

replacement weapon systems from the burgeoning fleet of C-130J models, already employed at the 58th under the 415th Special Operations Squadron. But the Talon II, with

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Kirtland Air Force Base — Photo by Todd Berenger

Aircraft Commander Maj. Jonathan Niebes, top, and loadmaster Tech. Sgt. Daniel Schrodt, both with the 550th Special Operations Squadron, prepare Kirtland's last MC-130H Combat Talon II for departure Friday.

Poster sessions note interns' work

By **BUD CORDOVA** | staff writer
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The Air Force Research Laboratory Scholars Program summer interns held a poster session for their research in various areas such as 3-D printing and plasma created by lasers on July 27.

"The poster session highlights their accomplishments and research throughout the summer," said Eunsook Hwang, who is in charge of technology engagement for the AFRL Space Vehicles and Directed Energy directorates.

In addition to their poster presentation, some scholars had to give a 15-minute oral presentation. The poster presentations were split into two sessions, one July 27 and the other



Ryan Phillips



Quinter Nyland

on Wednesday. More than 70 interns presented posters at each session.

At the start of the day, several scholars and mentors received awards for their work during the summer.

"It opens so many doors to show people in science fields there are whys to be passionate about science

outside of academia, and we got to put our résumés in the hands of some of the industry leaders," said AFRL Scholars Program intern and Outstanding Scholar Award recipient Ryan Phillips.

Phillips is a graduate student and worked in the AFRL Directed Energy Directorate.

His research consisted of trying to measure radio frequencies produced by plasma ignited from multiple lasers of different colors being combined into one beam. Using the multiple-color

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Base youth get taste of music biz

By **BUD CORDOVA** | staff writer
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The Kirtland Air Force Base Youth Center had a week-long camp to learn music production and videography first hand last week.

Say It With Music operates camps across the country at Air Force Bases each summer to teach kids how to create, write and produce their own

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the students selected their own background music and began to write lyrics. At the same time, a group of girls in the camp worked on creating the choreography and selecting the location for the video.

"One person came up with the first move and then the second person came up with the second move, till we each had our moves in the dance and we just linked them together," said Lauren Rider, 11.

The students recorded their lyrics Wednesday and immediately moved into videography.

"It was so much fun listening



The Nucleus — Photo by Bud Cordova

to the song for the first time," said Genevieve Wilkinson, 9.

The kids learned how to sync themselves to their music as they were being recorded and the multiple takes required for the film. Once the filming is complete, the separate takes of each camper will be stitched together to form one music video.

"I think it was fun creating

the music and the video, and our instructors were really nice and funny," said Layla Mott-Smith, 10.

The campers are ages 9-12.

Say It With Music tries to teach kids the influence of entertainment while building on core principles instilled in many Air Force bases, such as leadership and work ethic.

At the end of the camp, each student will receive a copy of the

song. To protect the kids' privacy, the video will be a private file and only the Youth Center will have access to the video link.

"It was really fun and something new that I would do again if I had the chance," said Natasha Liddy, 10.

The song lyrics the campers wrote talk about the power of words and how they can hurt.

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beams produces an increase in terahertz radiation, so his premise is there should be an increase in radio frequency as well.

Terahertz is the same technology used in airport full-body scanners.

"It's much safer to biological organisms than the radiation used in X-rays," Phillips said.

He said his research was an uphill battle all summer, but he loved every second of it, handling technical issues and trying to measure data.

The plasma induced by lasers lasts about one millionth of a nanosecond, or a femtosecond. Physical measuring instruments cannot read this unit of time, so he had to use optical measuring devices.

Part of why Phillips is trying to measure radio frequencies is because of the communication-jamming abilities a directed energy beam can provide.

This is Phillip's second year to be part of the AFRL Scholars Program.

"This is an amazing program. I would love to see it replicated in other Department of Defense and Department of Energy labs," he said.

He also said the mentors are world-class and second-to-none.

"The best thing is as a scholar, you're not a lab assistant. You're doing actual research and work that fits into the Air Force's mission. The mentors let you make mistakes in your research and learn from them and don't just give you the answers," Phillips said.

While many scholars move on to careers outside of AFRL, some, like Daniel Guillette, get hired into permanent positions. Guillette was an AFRL scholar for three summers before he was hired in 2014.

"When I started I was really fascinated by space and thought the Space Vehicles Directorate was

what I wanted, but because of this program I discovered Directed Energy and it just took my career in a different direction," he said.

Guillette is now a mentor in the program.

The scholars program is also open to high school students and undergraduates like AFRL Outstanding Scholar recipient Quinter Nyland.

Nyland started his internship as a junior in high school. This year is his third as an AFRL scholar and he recently completed his freshman year of college.

Nyland worked on 3-D printing in the Space Vehicles Directorate. His research was to use the additive manufacturing process to create structures with electronic components, like wiring, fabricated into them.

"This process is more cost-effective and reduces the amount of man hours needed to assemble and fabricate structures," he said.

Nyland also helped set up the additive manufacturing lab for future scholars and researchers.

"The best thing about undergraduates and high school scholars is they are exposed to the options in career fields early and are able to pursue their dreams," Hwang said.

AFRL pays for the scholars program mostly out of its core funding, and other AFRL directorates have begun to use the template started at Kirtland Air Force Base.

A representative from the AFRL Munitions Directorate at Eglin Air Force Base in Florida was present for the poster session to see how AFRL N.M. runs the program. The Munitions Directorate has 68 scholars this summer.

"We do this program not only to help the students but also for the new ideas that the scholars bring to AFRL," Hwang said.