

VOLUME 59 NUMBER 17

APRIL 28, 2018

THE KWAJALEIN HOURGLASS



URSULA LABRIE POWERS THROUGH A CURVE ON OCEAN ROAD DURING THE BIKE LEG OF THE RUSTMAN OLYMPIC-LENGTH TRIATHLON APRIL 23.

 JESSICA DAMBRUCH

THIS WEEK

NASA ROCKET
LAUNCH FROM JOI - P 6

RUSTMAN 39
FUN RUN UNDER A HOT SUN - P 2

MILITARY KIDS
IN KWAJ COMMUNITY - P 12



U.S. Army photo by Jessica Dambruch

Craig Behler leads this trio of cyclists powering through the intersection of Ninth St. and Ocean Road during the RustMan April 23.

IN RUST WE TRUST

KRC RUSTMAN 39

FEATURE/JESSICA DAMBRUCH

April 23 was not just another day in paradise. More than 30 intrepid athletes set out in scorching temperatures to compete in the 39th RustMan Triathlon.

The Kwajalein Running Club's annual half marathon event challenges contestants to complete a one-km swim, 42-km bike ride and 10-km run around Kwajalein before heading to a community afterparty at the Emon Beach big pavilion.

RustMan is an event that invites resi-

dents to celebrate community as much as fitness in paradise.

"It's always tons of fun to be out there participating, especially when you've got the community out there rooting for you," said Christi Cardillo, a 12-year Kwaj resident. The self-professed RustMan evangelist appreciates the groups that set up grill-and-cheer oases along the triathlon route and says volunteers are a huge part of the action.

"This year we had so many groups of people rooting all along the course, from

a Space Fence crew handing out water bottles, to groups all along Lagoon and Ocean Roads," Cardillo said. "A big chunk of the population has to come together to make the day happen. [There are] so many volunteers from number writers, timers, course marshalls [and] water stop crews. Of course, Bob Sholar and his wife Jane are the heart of the Rustman, and the Kwajalein Running Club."

Congratulations to all of the competitors, volunteers and teams who helped make RustMan a memorable experience.

Check out these cool race day observations from RustMan organizer Bob Sholar.

- **Thanks, Col. DeOre!** U.S. Army Garrison-Kwajalein Atoll Commander Col. James DeOre delivered inspirational words from the shore to start the lagoon swim at 4 p.m.
- **Super Students.** Six high school senior boys participated in RustMan 39. Aidan Alejandro is the first senior high school finisher. After graduation he is bound for the U.S. Naval Academy. See group photo, page 5.
- **Making History.** TC Cardillo gets the 6th overall win (the first was back in 1997) and becomes the first 50+ division contestant to win overall.

• **Tastes Great.** Hungry finishers and support staff ate 108 Bubba Burgers and 100 hot dogs at the RustMan after party at Emon.

• **It was kind of hot.** Temperatures race day reached more than 80 degrees. Regardless of the heat, RustMan 39 brings out three personal bests for Eric Miller, Ursula LaBrie and Elissa Fiore.

• **Good Samaritan.** Chief Dave Casbarra delayed his progress through the running portion of the RustMan by 10 minutes to assist a fellow competitor who suffered from dehydration. The runner was safely evacuated to Kwajalein Hospital and is in good condition. Good work, Chief!

THE KWAJALEIN HOURGLASS

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FACES OF RUSTMAN

"One of my favorite parts of the RustMan is the community involvement. Community members are awesome setting up extra watering stations and cheering us on. I now realize how vital those BBQ and cheerleaders are to the experience of the Rustman. Thank you to all the cheerleaders, grill masters and drink servers for making this participants' run a little more enjoyable or painful—maybe both."

ALEX COLEMAN
TEAM MATHletes
RUSTMAN NO. 2



"I've never done a triathlon before moving to Kwajalein. I am thankful there are no hills! Also, I am thankful that the wind seems to let up on race day after being so miserable during training."

KYLE MILLER
TEAM "TRI-HARD"
RUSTMAN NO. 4



"There were at least as many volunteers as there were participants. Everyone was welcoming and positive. Even the leaders who said "hi" and shared encouragement every time they lapped me! That's been a rare experience at events I've joined at other places. Looking forward to next year."

GREGORY HUEY
SOLO RACER
RUSTMAN NO. 1



"For me, each athletic event is different, emotionally. Whatever is occurring in your life during your training time will have a reflection on your athletic event. This was my last Kwaj running club event before my PCS. Such a bittersweet emotional race! I was so happy to participate while being sad its my last RustMan."

ANGEL BOLTON
TEAM "TRI HARDER"
RUSTMAN NO. 2



"I enjoy helping whenever I can. For as hard as the athletes train and condition themselves they deserve to have their efforts recorded as precisely as possible. The entire time scoring team was dedicated to making sure every participant got the most accurate record of their accomplishment."

JONATHAN BRADLEY
R39 SCORING TEAM
RUSTMAN NO. 4



"There is so much camaraderie and support from everyone: the competitors, event organizers and spectators. It is truly uplifting and inspiring to see such a strong sense of community all around the island, as we were cheered on along the route. Can't wait until next year!"

LESLIE SAVAGE
TEAM "INSTANT REGRET"
RUSTMAN NO. 1

RACE DAY STREET VIEW



1) Riza Walker and friends get ready to celebrate the RustMan with their annual tradition: their very own water station. 2) Mike Howe wishes his son Solomon good luck before beginning his bike segment. 3) Tim Roberge and Shana Darrah support RustMan in style—with grilled grub. 4) Patrick Phelon, left, Jordan Vinson and Jacque Phelon get ready to document the swim segment of the RustMan. 5) Timekeepers maintain scores for athletes near a tracking station at Ocean Road.

📷 U.S. Army photos by Jessica Dambruch

RUSTMAN 39 IN NUMBERS

INDIVIDUAL SCORES

	SWIM	BIKE	RUN	TOTAL
T.C. Cardillo (12) *	0:18:22	1:12:52	0:50:04	2:21:18
Jay Lord (5)	0:17:25	1:13:39	0:55:06	2:26:10
Chad McGlinn (7)	0:17:38	1:10:10	1:02:24	2:30:12
Eric Miller (2+)	0:22:53	1:19:05	0:54:55	2:36:53
Colleen Williams (1)	0:18:30	1:29:57	0:49:25	2:37:52
Bruce Premo (6)	0:19:55	1:23:43	1:06:57	2:50:35
Brian Dishman	0:21:48	1:31:03	0:59:16	2:52:07
Julia Sholar (2)	0:17:32	1:34:06	1:04:23	2:56:01
Ursula LaBrie (3+)	0:18:23	1:28:03	1:13:42	3:00:08
Zachary Hill (1)	0:15:59	1:40:05	1:05:59	3:02:03
John Vinton (1)	0:26:25	1:36:51	1:02:40	3:05:56
Aidan Alejandro (1)	0:21:27	1:33:58	1:10:45	3:06:10
Victor Burnley (7)	0:23:33	1:28:12	1:14:27	3:06:12
Austin Maxwell (1)	0:24:19	1:42:05	1:01:24	3:07:48
Christi Cardillo (8)	0:22:31	1:39:57	1:07:00	3:09:28
Elissa Fiore (2+)	0:26:19	1:35:01	1:09:46	3:11:06
Michael Hinton (2)	0:23:26	1:41:35	1:08:52	3:13:53
Ryan Otto (1)	0:29:03	1:39:25	1:07:23	3:15:51
David Casbarra (3)	0:22:11	1:44:38	1:14:28	3:21:17
Greg Huey	0:22:55	1:42:12	1:18:07	3:23:14
Reilly Teigen (1)	0:26:14	1:40:10	1:19:17	3:25:41
Frankie Bradshaw (1)	0:29:09	1:48:49	1:16:13	3:34:11
John Maxwell (1)	0:26:41	1:50:23	1:22:41	3:39:45
Brian Arrington (1)	0:30:21	2:16:10	1:07:02	3:53:33
Hendrix Bailey (1)	0:24:23	2:04:01	1:39:55	4:08:19
Peter Davis	0:40:53	2:54:42	1:54:00	5:29:35
Donovan Miller	0:20:54	1:30:12		
Tom Pamperin	0:17:21			

Number after name is the count of RustMan solo completions.

Plus sign indicates a personal best in 2018.

***Tom Cardillo**
-First Senior Division (age 50+) contestant to win overall.

***Tom Cardillo**
-2018 marks his sixth win
-First win came in 1997



Top: TC Cardillo in the 2018 RustMan. Bottom: Cardillo in the 1999 RustMan.

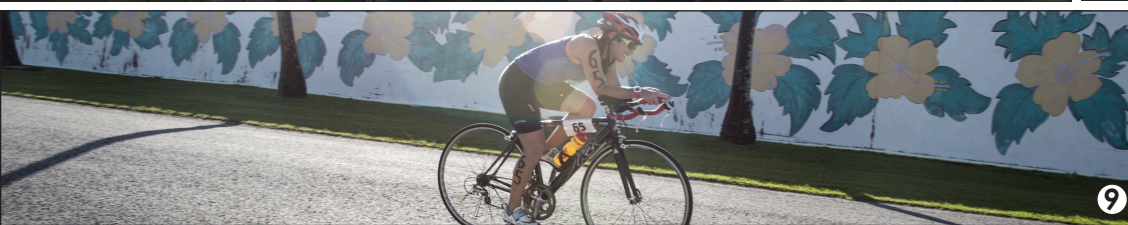
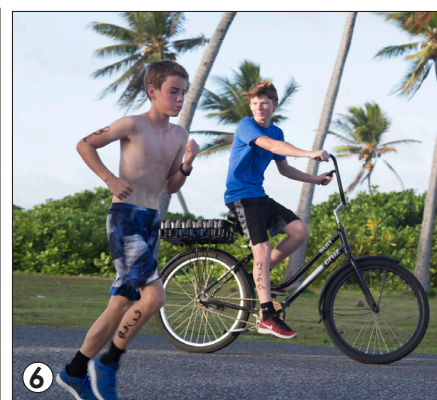
TEAM SCORES

	SWIM	BIKE	RUN	TOTAL
TRI-ING TO SURVIVE	0:15:00	1:27:13	0:45:34	2:27:47
Alyssa England; Jeremy Williams; Eric England				
MALIANA, RICH AND SHELBI	0:15:58	1:19:18	0:55:29	2:30:45
Maliana McCollum; Rich Erikson; Shelbi Rowe				
THE ONE TRICK PONIES	0:22:35	1:27:30	0:52:43	2:42:48
Matt McCollum; Mike Howe; Aaron Enes				
BRUH, LET'S WIN!	0:16:49	1:32:54	0:55:05	2:44:48
Sean Hepler; Quincy Breen; Luc Burnley				
TRI-HARD	0:19:32	1:28:16	1:00:44	2:48:32
Todd Emmons; Kyle Miller; Alex Coleman				
PAU WITH A PORPOISE	0:19:55	1:36:58	0:54:36	2:51:29
Jenifer Peterson; Tim Baker;				
Kurt Jerke; Aaron Pitney; John Donaho				
INSTANT REGRET	0:22:33	1:43:26	0:50:11	2:56:10
Katey Beavers; Leslie Savage; Jordan Vinson				
WE H8 MAFFS	0:16:52	1:43:53	1:05:16	3:06:01
Dominic Leines; Ryan Hess; Nathan Jones				
MATHLETES	0:19:02	1:34:02	1:14:02	3:07:06
Mallory Masciarelli; Meghan Connor; Don Engen				
6TH GRADE SAVVY	0:17:52	1:37:44	1:12:19	3:07:55
Tessa Delisio; Felix Prim; Ava Moore				
LEBOWSKI'S 'LIL URBAN ACHIEVERS	0:21:12	1:42:07	1:08:07	3:11:26
Craig Behler; Craig Behler; John Osterson				
TRI HARDER	0:23:07	1:33:06	1:18:49	3:15:02
John Halenar; Angel Bolton; Angel Bolton				
WES, PAUL, PATRICK	0:21:21	2:11:32	0:50:31	3:23:24
Wesley Kirk; Paul Joyce; Patrick Phelon				



WE GOT YOUR GOOD SIDE

Want to see more RustMan action? Check out the Kwajalein Hourglass Flickr page and the next episode of the Kwaj Current TV Show on channel 29-1.



1) Solomon Howe gets in on the helicopter fun at the CYS Month of the Military Child Carnival. 2) The mastermind behind the carnival fun: CYS Specialist Chelsea Weber checks out the Lakota helicopter she requested for the carnival. 3) Reach for the sky! These Kwaj kids donned laser tag gear for an electric shootout in the Namo Weto Youth Center April 22. 4-5) Earth Day clean-up efforts bring the communities of Kwaj and Roi out in force to scour the beach for plastics and debris April 22. 6) Quincy Breen cheers on fellow "Bruh, Let's Win!" teammate Luc Burnley. 7) The six KHS seniors get ready to compete. From left, Austin Maxwell, Aidan Alejandro, Hendrix Bailey, Donovan Miller, Brian Arrington and Reilly Teigen. 8) John Maxwell reaches for a cup of water from a race volunteer. To honor the memory of his deceased friend and former Kwaj resident Ray Arsenault, Maxwell wore Ray's neon orange bike helmet during the race. 9) Christi Cardillo cruises alongside the Kwajalein Memorial Wall. 10) MWR's George Navarro, a RustMan event organizer, helps out during the race.

U.S. Army photos by Jessica Dambruch, Nikki Maxwell, Gus Aljure and Rob Kent

NASA, PHYSICISTS, STUDENTS LAUNCH SPECTROGRAPHS FROM ROI-NAMUR

FEATURE/JORDAN VINSON

NASA's Wallops Flight Facility and astronomers, physicists and students from Pennsylvania State University and the University of Colorado-Boulder joined forces to launch a pair of custom-built spectrograph telescope payloads into the thermosphere from Roi-Namur earlier this month.

The Penn State team's Water Recovery X-Ray Rocket (WRX-R) lifted off without a hitch from the Speedball pad on Roi at 10:40 p.m., April 4. It rode atop a NASA Terrier and Black Brant IX rocket assembly, flying 127 miles above the earth's surface.

The launch of University of Colorado-Boulder's payload, the Colorado High-resolution Echelle Stellar Spectrograph (CHESS), did not go as swimmingly. Its first 3-5 a.m. launch window opened up Friday, April 13, and a technical issue on the rocket forced managers to abort. The next day, strong, variable winds settled into the region, forcing campaign managers and safety personnel to scrub the launch three nights in a row—sometimes within mere seconds of liftoff.

Finally, at 4:47 a.m., April 17, during the final 13 minutes of the final launch window, the CHESS rocket's first stage Terrier ignited, sending the payload nearly 180 miles from sea level and washing the south end of Roi in golden light and a deafening roar.

The University of Colorado-Boulder team, led by principal investigator Dr. Kevin France, designed the CHESS spectrograph to peer into translucent clouds of gas lying in what astronomers and astrophysicists call the interstellar medium, aka the matter between stars.

These thin gas clouds in the boondocks of space contain the fundamental building blocks of stars and planets. But in order to study them, astronomers must thrust telescopes out of the Earth's atmosphere and orient them to bright, power-

ful stars lying behind these clouds. As the star's light and stellar wind collide with the gas clouds, a telescope and spectrograph can view and record the chemical makeup of those clouds, along with their temperature and motion.

For the CHESS experiment, the target star was Gamma Ara, a young, 15-million-year-old giant, located in the southern sky constellation of Ara, near Scorpius.

"Gamma Ara possesses an unusually strong equatorial stellar wind that is injecting large amounts of material and kinetic energy into its immediate galactic environment," France stated in an earlier NASA interview before flying out to Kwajalein Atoll.

His team worked with NASA's Wallops Flight Facility staff to package the CHESS spectrograph and telescope into a payload and launch it into the thermosphere along a parabolic trajectory. During the 300 seconds the telescope stared at Gamma Ara, the spectrograph recorded precious data on the interaction between the star's powerful stellar winds and the clouds of gas between Earth and Gamma Ara.

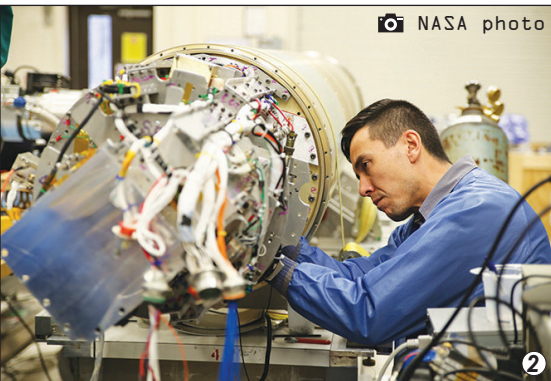
Minutes after liftoff, the payload had begun transmitting the data down to Reagan Test Site's telemetry radars and monitors manned by NASA and University of Colorado-Boulder teams. The last-minute launch and payload separation were successful.

"We won the stat lottery," wrote Michael Snap, of NASA Wallops Flight Facility, in a Facebook message to the Roi Rats who came out to watch the liftoff. A photo he sent out of a monitor in the group's mission control room resembled television static. In reality, it was good data, France stated.

"That image shows that the rocket's onboard attitude control system successfully acquired the Gamma Ara star field," he stated. "Once we were on target, our ultraviolet spectrograph started taking data and observed over 10 million photons directly from Gamma Ara."

1) The April 4 WRX launch is captured in a long-exposure photo by Roi resident KC Martin Casil from the fire station. 2) The April 13 CHESS launch is photographed up close by Roi Rat Neil Schwanitz. The photo was captured a fraction of a second after the ignition of the Terrier first stage.

📷 Photos courtesy of KC Martin Casil and Neil Schwanitz



U.S. Army photos by Jordan Vinson and other sources, as noted

"All of this pieces back to understanding the stellar structure, to understanding the formation of stars, therefore the formation of the structure of the universe."

---Dr. Abe Falcone, WRX X-ray detector lead

While CHES investigated the interstellar medium between Earth and Gamma Ara, Penn State's WRX launch April 4 set out to record soft X-rays emanating from the remains of a supernova that lit up the Earth's sky during the last ice age: the Vela Supernova Remnant.

Its past is similar to other stars with masses magnitudes greater than that of the sun. Toward the end of its lifespan, the remnant's progenitor star in Vela lost the ability to generate enough energy to resist the ceaseless inward pull of gravity. By converting simple gases like hydrogen and helium into heavier elements through nuclear fusion, the star had maintained itself against gravity's grip for a long stretch of time. But when its share of simpler elements was depleted, its gas tank went empty, and gravity pulled the star's mass inward toward the body's center of gravity, creating an immense amount of energy that caused the star to essentially explode.

During supernova events like this, most of the rest of the star's mass is ejected outward into the interstellar medium and beyond. That mass—the elements created through nuclear fusion over the eons—winds up, literally, everywhere. All the elemental building blocks of every organism and rock and chemical compound

on Earth and any planet in the known universe are made of the elements forged in the nuclear furnaces of stars, stellar explosions or mergers, and tossed out across the cosmos.

This is why supernovas are of vital interest to scientists: They are the figurative Johnny Appleseed's of the universe.

However, supernova events are relatively rare, with only two or three stars exploding per century in a typical spiral galaxy like the Milky Way. Moreover, they are short-lived events, often visible from Earth for only weeks or months.

More permanent analogs for research are the ejected chemical remains of a supernova death. Travelling through space at extreme speeds, these elements comprise what is called a supernova remnant. The speeds of the ejected elements are so high that when they collide with other clouds of material in the interstellar medium, they produce a shockwave that heats the elements to temperatures as hot as 10 million Kelvin. These high temperatures, in turn, cause the emission of X-rays, which themselves radiate throughout the cosmos and are detected by X-ray telescopes, such as NASA's Chandra X-ray Observatory. Those X-rays reveal much about not only the supernova remnant, but the original supernova itself. That's the whole point of WRX, explained the

1) The University of Colorado-Boulder spectrograph payload is pictured April 5 near the Speedball pad on Roi nearing its final assembly phase. 2) Dr. Randall McEntaffer, the principal investigator of the WRX experiment, works on his team's payload at Wallops Flight Facility before venturing to Roi. NASA photo. 3) NASA Wallops Flight Facility ordnance and launcher experts finish up the final cable management tasks on the WRX rocket April 3 prior to launching the rocket the following night.

experiment's principal investigator, Dr. Randall McEntaffer, in between runs out to the Speedball pad April 4 in preparation for the launch.

After the WRX rocket lifted off, it flew 127 miles into the thermosphere, an altitude in which the spectrograph could peer at an unexamined 10-square-degree section of the Vela Supernova. For 280 seconds, the Penn State telescope sucked up X-rays, helping reveal the remnant's chemical makeup, density, temperature and shock velocity, along with the energy of the original supernova and the mass of the progenitor star.

Staring at a laptop monitor during a round of celebratory drinks at the Outrigger, graduate students involved in the WRX experiment gushed over X-ray detector data already streaming in. Bright white pixels against a black background revealed captured X-rays emanating from the Vela Supernova Remnant. Dr. Abe Falcone, head of the WRX team's X-ray detector group and a research professor at Penn State, looked over their shoulders, explaining the meaning behind the white



Courtesy of Erik Hanson

1

1) The U.S. Army Great Bridge ship seeks shelter from high winds at Rongerik Atoll during the long wait for the delayed launch of the CHESS rocket. 2) Wallops Flight Facility launches CHESS at 4:47 a.m., April 17. 3) A monitor indicates the CHESS rocket's orientation system is on target shortly after liftoff. 4) A small crowd of Roi residents and Wallops ordnance and launcher preparation staff gather at the Roi telemetry office for a view of the CHESS launch in the early morning hours. For most, it was the fifth night of hoping and waiting for liftoff.



2



3

blips on the monitor.

"The little dots are telling you where the X-rays are [on the detector]. Then we look for the particular energy of the X-rays [the team] cares about. ... In addition to that, you're looking at the position on the detector for the particular energy of the X-rays they care about. Because, as a result of the way this telescope is made, these X-rays are going to get diffracted into a particular position on that detector as a function of their energy."

In short, by finding out what the energy of the X-ray is—or its particular frequency on the electromagnetic spectrum—the team can better understand the details it is after by studying the supernova remnant, Falcone explained.

"You have particular elements that you're looking to see what the makeup is [of] that supernova remnant," he said. "And if you can trace back to that, you start to understand the fundamental makeup of where these elements come from around the universe. ... All of this pieces back to understanding the stellar structure, to understanding the formation of stars, therefore the formation of the structure of the universe."

Strapping a telescope to a relatively small rocket sounds bizarre. On a sub-orbital trajectory, the spectrographs depended wholly on instrumentation controlling the payload's yaw, pitch and roll so as to keep the telescope on target. Given that the types of spectrograph readings aimed for in these experiments are impossible to gather by telescopes inside the atmosphere, it makes sense that NASA and the research teams would go to so much trouble to launch a telescope way up into the thermosphere and splash it down into the ocean.

What sounds bizarre is the massive

effort that goes into what amounts to a maximum of three or five minutes of data collection. Stable telescope or not.

Clarification of the grand purpose of the whole operation came from Ted Schultz, a research engineer with Penn State's Department of Astronomy and Astrophysics. The truth is, he said, the gratings, or prisms, used inside the WRX spectrograph to characterize soft X-rays are the most advanced units employed in astronomy today—greater than even some of the capabilities of the Chandra X-ray Observatory, launched in 1999.

"The [optics] that we're using [are] called gratings. We make them at Penn State," Schultz said. "And they're state of the art; there's nothing better in the world. And you don't really think about this little rocket ... being better than a huge space telescope already up there. But it is. It actually performs better in certain colors than the best thing up in space right now."

In other words, Schultz said, think of sounding rocket launches as a way of test driving new hardware and validating the technology's membership aboard the next space-based X-ray telescope.

"You've got to prove that what you've got is going to work in space before they even give you the money to build the new one," Schultz said. "So, we spend a lot of time trying to launch these bleeding edge things that no one has ever launched before. And I think that is the real value of the sounding rocket."

Shooting telescopes into the upper limits of the atmosphere is nothing new for Wallops Flight Facility. The team performs many suborbital launches for astronomical research at the White Sands Missile Range in New Mexico, where land recoveries of the payloads are a cinch.



4



5



6

5) Dr. Abe Falcone, left, head of the WRX X-ray detector group, runs through pre-launch checklists with his team members April 4. 6) Penn State Department of Astronomy and Astrophysics Research and Development Engineer Ted Schultz, left, fields phone calls from WRX team members working on the pad in the run-up to liftoff April 4.

"We spend a lot of time trying to launch these bleeding edge things that no one has ever launched before. And I think that is the real value of the sounding rocket."

---Ted Schultz, research and developmental engineer for WRX

But the observation targets—Vela and Ara—for this sounding rocket campaign are too difficult to spot from White Sands' latitude in the northern hemisphere, even at altitude. The constellations are simply too close to the horizon.

The solution? Head south, to Kwajalein Atoll, and launch.

Launching sounding rockets from Roi is, like the sounding rocket program itself, also nothing new. Dozens of NASA, Air Force and Navy suborbital launches have occurred from the island's Speedball pad since the early 1960s.

What separated the WRX and CHES experiments from the pack, however, was the need to recover and return the payloads from their open ocean landing spots. For these experiments, NASA employed a newly developed water recovery system in each rocket, enabling the payloads to float on the ocean's surface after parachuting down from their dates in the thermosphere.

To begin the recovery process, Berry Aviation pilots and spotters took off from Kwajalein aboard a Fairchild Metroliner after each launch to search for the floating payloads. Following coordinates relayed by Wallops Flight Facility personnel, the pilots spotted the payloads and relayed their exact positions to the U.S. Army Vessel Great Bridge ship and crew.

Tasked with recovering the payloads near Rongerik Atoll, north of Kwajalein Atoll, the Great Bridge and crew endured days of roiling seas in high winds while the NASA and University of Colorado-Boulder teams scrubbed repeated attempts for the CHES launch due to the winds. The earlier recovery of the WRX payload had gone as smoothly as possible. But when it came time to pluck the CHES payload from the water, things were a little hairier, said Great Bridge Capt. Ron Sylvester.

"When it launched, it was 4:47 a.m., and the splash point was 32 nautical miles from our location with heavy seas and rain," Sylvester stated.

After locating the payload a further eight miles away from the splash down point, divers jumped in the ocean to attach lines to it. Because the water was too rough to crane the payload onto the boat, the next-best option was to tow it 50 nautical miles into the shelter of the closest landmass—Rongerik Atoll—and then bring it aboard with the crane. It was a long, bumpy trip, the captain said. He

and his crew were glad to get the payload back to Roi and then get themselves back home.

"The sea was angry that day, my friend," Sylvester ended, quoting a classic "Seinfeld" episode. "Like an old man taking cold soup back at a deli."

The NASA Wallops Flight Facility's WRX and CHES campaigns brought a few months of action—and two dazzling launches—to sleepy Roi, essentially doubling the island population in the process.

"This is my second time here," said NASA Ground Safety Officer Seth Schisler a couple of hours before the WRX launch. "We've been coming back since 1989, actually. ... We're one of the few customers that comes out and uses these launch pads."

Schisler and the rest of the Wallops team are no strangers to setting up camp in remote areas of the world to perform launches.

"We're kind of all around the world on remote science," Schisler said. "That's one of the unique features that we have with the sounding rocket program. We're a really cheap way to space and [with] a really quick timeframe."

Outside of their home base launch pads at the Wallops Flight Facility along the Virginia coast, the team regularly launches from Alaska, and throughout its history, Wallops has launched sounding rockets everywhere, from Australia and New Zealand, to Bermuda and Greenland. Just last September, again at Roi, the Wallops team launched two rockets for the Waves and Instabilities from a Neutral Dynamo (WINDY) experiment.

This month's WRX and CHES experiments mark two more successful missions, and there will surely be more to come.



1) Ron Sylvester, captain of the U.S. Army Vessel Great Bridge, speaks with Wallops Flight Facility launch staff after returning the WRX payload to Roi, April 5. 2) Great Bridge crew pause for a group photo with members of the Penn State WRX team on Roi-Namur April 5. 3) NASA Wallops Flight Facility Ground Safety Officer Seth Schisler explains the WRX rocket liftoff and ascent-to-apogee process prior to the rocket's liftoff from the Speedball launch pad on Roi. 4) Great Bridge First Mate Jeremy Owens, right, and team mates secure the CHES payload after returning to Roi the morning of April 18 after nearly a week at sea.



WEEKLY WEATHER LOOKOUT

RTS WEATHER STATION STAFF

WEATHER DISCUSSION: We have reached a transition point in the tropical weather season. The smoother Intertropical Convergence Zone (ITCZ), which has been generating above average rainfall in the atoll, is now breaking into a chain of weak circulations. Wave pulses along the broken ITCZ, located between 5N and 10N latitude are giving Kwajalein periods of strong shower activity. One of the weak circulations will be southwest of Kwajalein by late weekend. Our current computer models indicate the circulation may develop enough to pull in weak west winds for the atoll late Sunday into Monday. The ITCZ will continue in this pulse mode, which will produce more episodes of intense shower activity through the coming week. Expect some periods of sun, but increased periods of showers to at least the scattered category (30-50% chance) for much of the week ahead. Winds are NE to SE ahead of the west wind threat late this weekend, with stronger NE trade winds behind the system, later in the week.

SATURDAY/SUNDAY/MONDAY FORECAST: Mostly cloudy and with waves of showers this weekend. Scattered to occasional showers. Winds will be in the 10-20 knot range mostly from the east, but becoming southeast and south, before a developing circulation southwest of the atoll moves north and produces 5-10 knot southwest and west winds late Sunday into Monday. Brisk northeast trade winds will return by mid week. Waves of convective showers may cause higher gusts at time into at least the 30 to 35 knot range.

MID-WEEK FORECAST: Mostly cloudy and scattered showers. Wind NE-E at 15-20 kts, with gusts to 30 knots.

Head to the Ocean View Club Saturday, May 5, for MWR's Cinco de Mayo bash! Featuring live performances by Ballistic Love and the Atomic Playboys. Music starts around 9 p.m.

AFN 99.9 THE WAVE

SUN-MOON-TIDES

	SUNRISE SUNSET	MOONRISE MOONSET	HIGH TIDE	LOW TIDE
SUNDAY	6:34 a.m. 6:59 p.m.	6:22 p.m. 5:50 a.m.	3:53 a.m. 4.4' 4:05 p.m. 4.2'	10:02 a.m. -0.5' 10:10 p.m. -0.7'
MONDAY	6:34 a.m. 6:59 p.m.	7:12 p.m. 6:35 a.m.	4:23 a.m. 4.6' 4:37 p.m. 4.2'	10:35 a.m. -0.6' 10:38 p.m. -0.6'
TUESDAY	6:33 a.m. 6:59 p.m.	8:02 p.m. 7:19 a.m.	4:52 a.m. 4.7' 5:06 p.m. 4.0'	11:06 a.m. -0.6' 11:05 p.m. -0.5'
WEDNESDAY	6:33 a.m. 6:59 p.m.	8:52 p.m. 8:05 a.m.	5:20 a.m. 4.6' 5:35 p.m. 3.7'	11:37 a.m. -0.5' 11:31 p.m. -0.4'
THURSDAY	6:33 a.m. 6:59 p.m.	9:42 p.m. 8:52 a.m.	5:48 a.m. 4.4' 6:04 p.m. 3.4'	12:08 p.m. -0.3' 11:57 p.m. -0.1'
FRIDAY	6:32 a.m. 6:59 p.m.	10:31 p.m. 9:39 a.m.	6:16 a.m. 4.2' 6:34 p.m. 3.1'	12:39 p.m. -0.0' -----
MAY 5	6:32 a.m. 7:00 p.m.	11:20 p.m. 10:28 a.m.	6:46 a.m. 3.8' 7:06 p.m. 2.8'	12:24 a.m. 0.2' 1:14 p.m. 0.3'

RESIDENTIAL INTERNET UPDATE

USAG-KA Residents - Beginning May 1, 2018, DynCorp International, in association with AAFES, is providing residential internet service on Kwajalein and Roi-Namur. Beginning April 25 and no later than May 5, you can continue or activate your residential internet service on Kwajalein by visiting Bldg. 702 Cash Cage, between 1 - 5 p.m., Tuesday - Saturday. Roi-Namur residents can go to the Finance Office, between 1 - 4 p.m., Tuesday - Friday. There you can:
 *Complete a DI residential internet service agreement;
 *Make your first month's payment (May) of \$87.50; cash, check, credit card or military Star card is accepted; and
 *Ensure your account information is up to date and paid through April 2018.

The monthly fee is based on the estimated number of subscribers, cost of supplying the improved U.S.-based service, increased bandwidth (200 MBs) and customer technical support. For billing questions call bldg 702 at 355-0853 and technical questions call Peter Davis at 355-3511.

The current residential internet service is discontinued as of April 30, 2018.

Captain Louis S. Zamperini Dining Facility

*MENU CURRENT AS OF APRIL 27

LUNCH

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	May 5
Pepper steak	Stuffed bell peppers	Chicken vega	Fried catfish	Baked chicken	Chicken, brocc. alfredo	Roast turkey
Pork fried rice	Fried trout fish	Buttered potatoes	Mac and cheese	Hamburger yakisoba	Beef teriyaki	Prime rib
Corn o'brien	Parmesan broccoli	Noodles jefferson	Candied yams	Corn combo	Scalloped potatoes	Cauliflower polonaise

DINNER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	May 5
Herbed cornish hens	Chicken parmesan	Beef teriyaki	Beef stew	Cajun meatloaf	Grilled pork chops	Red bean, pork sausage
Sweet peas	Garlic bread	Paprika potatoes	Chicken cordon bleu	Pineapple baked ham	Mustard baked salmon	Basmati rice
Mashed potatoes	Spaghetti	Fried cabbage	Succotash	Eggplant	Sauteed spinach	Asparagus

COMMUNITY CLASSIFIEDS

HELP WANTED

To research and apply for government employment opportunities on U.S. Army Garrison-Kwajalein Atoll and worldwide, visit www.usajobs.gov.

COMMUNITY NOTICES

The 30th Annual Ballroom Dinner Dance will be held on Sunday, May 6 at 6:30 p.m. in the MP Room. Hosted by the talented Kwajalein HS Stage Band, the evening includes a catered dinner and dancing with live music provided by the band. Tickets for the event are \$45 and all proceeds help fund the band program at KHS. Contact Kyle Miller for tickets: 5-1167 or millerk@kwajalein-school.com.

The Kwajalein Art Guild announces their annual Spring Art & Craft Fair taking place on Monday, April 30 from noon-4 pm. in the MP Room. A great place to find Kwaj unique items from local artists, crafters and vendors.

E-Wareness: Ocean Disposal: Garbage In, Garbage Out. Waste disposal into the ocean isn't permitted. Keep the ocean clean and be rewarded with beautiful water and plentiful fish! Jokbej Ilojet. Ejab melim jolok kwobej ko ilojet. Kejbarok lomalo in ad non emonlok eo an kab lonlok in eek!

May Learn to Swim Class Announcement Session Dates: May 2-25. Wednesdays and Fridays (8 sessions). Levels III, IV, and V, 3:45-4:15 p.m. Levels I and II 4:30-5 p.m. Cost: \$50 per participant. Participants must be at least 4 years old. Registration: April 24-29, 2018. For questions and registration: Contact Cliff Pryor at 5-2848.

The Optometrist, Dr. Chris Yamamoto will be on Kwajalein and will see patients on 13 through

May 24. Please call the Hospital for eye exam appointment at 5-2223/5-2224.

The EAP office has moved to Room 224, still on 2nd floor of hospital. Please call 5-5362 to schedule. Offering support to any resident, employee or dependent.

Congrats to all the Biggest Loser Competitors, they are off to a terrific start with "Bambi" in the lead for women with -4.8% and "Winnie the Pooh" leads the men with -6.85%. There are 10 contestants still needing to weigh in. Please call 5-5362.

Kwaj adult pool closed through May 4 or 5 due to needed water valve repair work. The community's patience is appreciated.

New Hours at the AAFES Food Court and American Eatery

Effective May 5, 2018

FOOD COURT

Monday-Friday / 8 a.m.-7 p.m.
Saturday / 8 a.m.-8 p.m.
Sunday / 11 a.m.-6 p.m.

AMERICAN EATERY

Monday-Friday / 10 a.m.-4 p.m.
Saturday / 8 a.m.-6 p.m.
Sunday / Closed

The 2018 Rusty Family Swim-Bike-Run Triathlon

is scheduled for May 7. Pre-registration is required by Thursday, May 3. For more information, to register or VOLUNTEER as race time Staff, please contact Bob and Jane Sholar, H: 5-1815.

This is a child friendly event and not a sprint triathlon for adults.

ISLAND MEMORIAL CHAPEL EVENTS

Missionaries' Get Together Invite

All adult ladies are invited to Ebeye on Sunday, April 29th at 4:00 pm for a Missionaries' Get Together at Ebeye Wellness Center. A group of us will be leaving on the 3:30 ferry to Ebeye and returning on the 5:30 ferry to Kwaj. There will be music and testimonies by various missionaries. Contact the chapel office at 5-3505 for more information.

CWF Luncheon

All ladies are invited to join us for a delicious lunch, a look back at the previous year, some fun activities and goodies to take home. Invite a friend and join us on Sunday, May 6th at 12:30 pm. There is no cost for this event.

National Day of Prayer Breakfast

Hosted by Island Memorial Chapel. Thursday, May 3rd at REB at 6:30am (adults only). Please bring your ticket with you to the Prayer Breakfast! There is limited seating, please stop by the church office to pick up your ticket no later than 29 April. Please call the church office at 5-3505 if you have questions.

KWAJALEIN MOVIES

***ALL AT THE CORLETT RECREATION CENTER, ROOM 6 UNTIL THE YUK SOUND SYSTEM IS FIXED**

28 April 2018 Star Wars: The Last Jedi (PG-13, 1 Hr. 52 Min.)
29 April 2018 Peter Rabbit (PG, 1 Hr. 34 Min.)

30 April 2018 Maze Runner: The Death Cure (PG-13, 2 Hr. 23 Min.)

ROI NAMUR MOVIES

28 April 2018 Red Sparrow (R, 2 Hr. 20 Min.)
29 April 2018 Paddington 2 (PG, 1 Hr. 43 Min.)

***All features begin at 7:30 p.m.**

Café Roi

*MENU CURRENT AS OF APRIL 27

LUNCH

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	May 5
Ministrone soup	Chicken tortilla soup	Beef noodle soup	Savory baked chicken	Honey must. chicken	Ministrone soup	Burger Bar
Pepper steak	Honey glazed chicken	Fried pork chops	Mac and cheese	Mashed potatoes	Chick. broccoli stir fry	Baked fish
Mashed potatoes	Parmesan broccoli	Chicken vega	Corn on the cob	Sweet peas	Tomato parmesan	Traditional stuffing

DINNER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	May 5
Seafood chowder	Garlic Bread	Taco Tuesday	Steak Night	Fried Chicken Night	Cream of potato soup	Chicken tortilla soup
Herbed chicken breast	Spaghetti	Teriyaki beef	Gumbo soup	Bean and ham soup	Beef stroganoff	Fried fish
Buttered egg noodles	Italian blend veggies	Mexican rice	Steamed cabbage	Wild rice	Parslied noodles	Spanish rice

MONTH OF THE MILITARY CHILD

EXTERNAL REPORT

By U.S. Army Installation Management

The U.S. Army observes the Month of the Military Child to recognize and honor the commitment, contributions and sacrifices children and youth make to the nation through the strength they provide the Soldiers and Families.

This year marks the 32nd anniversary of the Department of Defense designating April as Month of the Military Child.

The Army recognizes Month of the Military Child as an opportunity to honor and respect the unique challenges the military children face and overcome. Following are photos of some of the children of current and former service members on U.S. Army Garrison-Kwajalein Atoll.



1-5) The Corder Siblings. Anela (5), Ayele (15), Cherish (13), Jaya (10) and Urijah (2) are the children of Floyd and Melody Corder. Floyd served in the U.S. Army for 12 years, lives on Kwaj and is a member of the U.S. Army Inactive Ready Reserves (IRR).

7) Wesley Stevens, age 5, is enrolled in kindergarten on Kwajalein. His father, Capt. Brian Stevens is the USAG-KA director of emergency services, with nine years of service in the U.S. Army.

8) The Prim Brothers. Philip (7) and Felix (12) are the sons of Staff Sgt. Thomas Prim. Thomas retired from the U.S. Army after 23 years of service. On Kwajalein Thomas is a police officer with the USAG-KA Provost Marshall's Office. Philip is in 1st grade. He loves to play with his dog and enjoys snorkeling, golfing and tennis. Felix is in 6th grade and is known as Shark Tank Felix and Scubapro Ambassador. He enjoys diving, soccer, and other sports.

9) Peter Burton, age 5, is a pre-K Kwaj kid and the son of Daniel Burton. Daniel retired from the U.S. Army after 23 years of service.



Anela Corder
Age 5



Ayele Corder
Age 15



Cherish Corder
Age 13



Jaya Corder
Age 10



Urijah Corder
Age 2



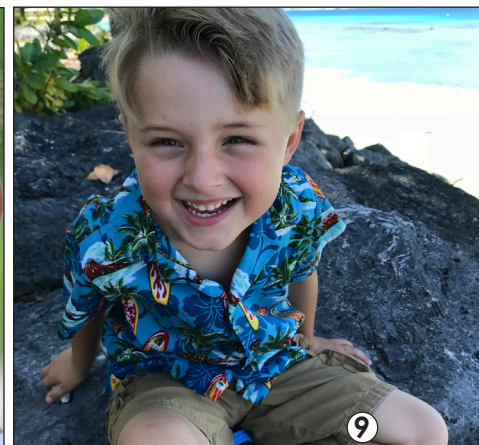
Wesley Stevens
Age 5



Philip Prim
Age 7



Felix Prim
Age 12



Peter Burton
Age 5