

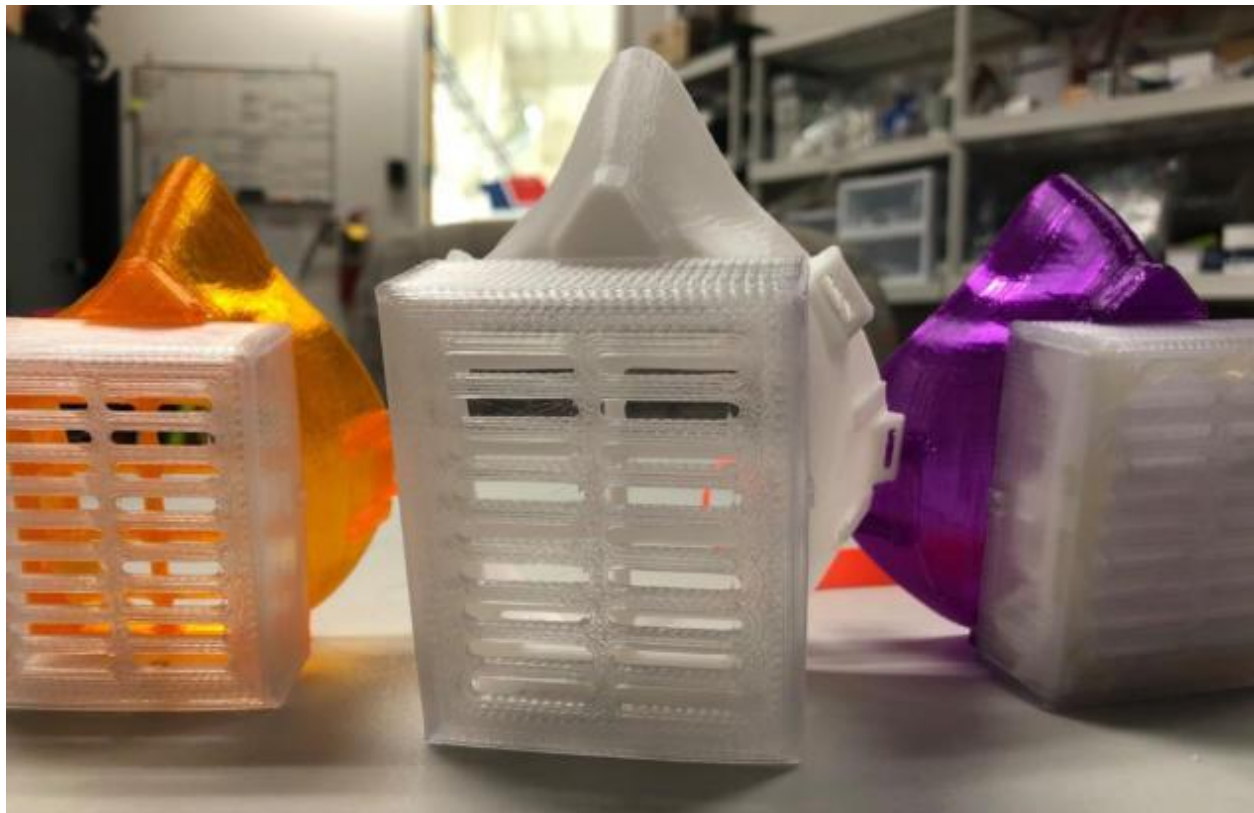
Exuberant flight nurse got mask effort flying

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Masks 3D-printed at the University of New Mexico COSMIAC lab are made of thermoplastic polyurethane, or TPU, a durable but pliant material that adheres to the contours of the face. Two layers of filters go into the attached boxes. (Courtesy of Laura Kief Shaffer)

ALBUQUERQUE, N.M. — It was a plea for help from the center of the Navajo Nation, where COVID-19 was raging across the far-flung communities on the reservation.

An emergency order mandating the wearing of masks in public had been issued April 17, but many residents, especially the elderly, didn't have masks. So the Chinle Chapter government issued a call for donated masks, homemade or otherwise, from anybody, anywhere.

“Dude,” Christina Salas wrote next to a copy of the alert. “We can help.”

Laura Kief Shaffer, the woman at the other end of the written post, responded without hesitation:

“Let’s do this!”



When she’s not working as a flight nurse, Laura Kief Shaffer is supervising volunteers who are making 3D-printed masks, face shield parts and nasal swabs. Here she sorts through some of the printed masks. (Courtesy of Laura Kief Shaffer)

And so it has gone with these two women – Salas the pragmatist, Shaffer the idealist – who came together to fulfill a need for masks and other products needed in the fight against COVID-19 with brains, determination and a lot of pizza and friends.

You may have heard of Salas, an assistant professor of the Department of Orthopedics and Rehabilitation at the University of New Mexico and special assistant to the dean of the School of Engineering for Health Sciences Center relations, who was appointed to coordinate efforts to create personal protective equipment for medical teams and others dealing with COVID-19.

Salas is quoted in stories about those efforts, including two articles in the Journal. She harnessed knowledge and resources of the School of Engineering to come up with a workable 3D mask prototype and a way to produce the masks, aided by medical

experts, the COSMIAC research center at UNM and the state Department of Homeland Security and Emergency Management.

But you may not have heard of Shaffer.

“Every time I’m interviewed, I talk about Laura and how she really got these efforts flying,” Salas said. “But people seem to want to focus on the technology first.”

Which, she said, is only part of the story.

So let’s tell the other part, the one about a nurse.

Shaffer is a flight nurse married to a nurse, married to the job of helping others with compassion, skill and boundless energy. Both are happy marriages.

She’s an ebullient sort, a “Let’s do this!” kind of woman who is hard to say “no” to.



Sixteen 3D printers run day and night and churn out about 500 masks and 300 shields a week. (Courtesy of Laura Kief Shaffer)

On March 19, when coronavirus had accounted for only 35 reported cases and no deaths across the state, Shaffer was on a flight to pick up a patient at a hospital on the western side of the state. The patient hadn’t been reported as possibly having COVID-19, and Shaffer and her crew hadn’t brought protective masks. But when they arrived, the symptoms were obvious.

“They couldn’t give us all masks, because they were already trying to salvage them because they already had a low supply,” Shaffer said. “That’s when I knew we were headed down a very scary path.”

Shaffer wasn’t about to go down that path without doing something to make it safer. She tested negative for COVID-19, but having such close contact with a COVID-19 patient lit a fuse underneath her. She started researching masks and reached out to someone she thought might have a few ideas – her father, Craig Kief, director of COSMIAC.

He set in motion a funding proposal, using his daughter’s experience with that infected patient and the lack of masks. He obtained permission to use the center’s cavernous location near the airport as a site for 16 3-D printers and for sterilized clean rooms where the masks could be put together.

Salas had obtained the help of engineering students and faculty. Shaffer provided even more help, setting up a Facebook page about the project and asking her nursing friends to donate their time.

“We’re talking nurses who willingly volunteer to come here to work even after their shifts,” Shaffer said. “That’s just incredible.”

Since the project revved up April 10, they’ve produced about 2,000 masks and 1,000 shields, Salas said. Both she and Shaffer have been on site every day – that, even though Shaffer continues work as a flight nurse for CSI Aviation.

Shaffer keeps a list of all the workers expected every hour. Among the names are Shaffer’s husband, Ben Shaffer; dad Craig and mom Ruth Kief.

Shaffer was among the people who recently delivered about 700 masks, 180 face shields, snacks and drinks to law enforcement and medical providers in Gallup and other parts of McKinley County.



Laura Kief Shaffer drops off snacks and face shields to Miyamura High School in Gallup on April 28. The school has been transformed into a treatment facility for COVID-19 patients.

They've not been able to help out Chinle, because it is in Arizona and special permission is required to transport the masks out of state.

"But we're still working on that," Salas said.

Until last week, Shaffer paid for pizzas and other food for her crew out of her own pocket. A GoFundMe she set up is now helping to defray the costs.

Money for the project itself, though, is running out. There's a way the public can donate to that, too.

Both Shaffer and Salas say they will continue to seek out new funding sources so they can keep the project going as long as it is needed. For Shaffer, the fuse is still lit and her nurse friends are still coming.

"I see how excited our volunteer nurses are to help us even after coming off 12 hour shifts at their respective hospitals and clinics," Shaffer said. "... I can honestly say that in no other circumstance could we have done what we did in such a short time. I'm so proud of everyone who has contributed."

But now you know a little more about the nurse who contributed the most.

UpFront is a front-page news and opinion column. Reach Joline at 730-2793, jkrueger@abqjournal.com, Facebook or @jolinegkg on Twitter.