

NMT Assay Report

New Mexico Tech eNewsletter

Spring 2020

New Mexico Tech Launches Random Acts of Kindness Campaign

It is safe to say that 2020 has not been what we expected, but in some ways, it has been more.

Throughout the past few months, we have all seen and read stories of uncertainty, fear, and struggle. At the same time, we have seen a coming together, caring for our neighbors, and efforts to spread hope and joy.

New Mexico Tech students, like many across the country, were greatly affected by closures associated with COVID-19. Many lost employment, are putting in extra work to finish the semester online, and are trying to cope with the uncertainty of going out into the “real world.”

A random act of kindness in an alumna’s Pittsburgh neighborhood - a stranger leaving a coloring book and crayons on the doorstep of every house - inspired New Mexico Tech to initiate our own **Random Acts of Kindness campaign**. As part of that campaign we launched an **Emergency Student Relief fund** to financially assist our students impacted by COVID-19.



You, our alumni and friends, have answered our call for help. The New Mexico Tech Foundation contributed \$100,000 and Foundation Trustees personally donated; individual gifts were received from NMT alumni, administration, faculty, staff, students, and friends. Between March 26th and April 25th more than \$157,000 has been raised to help NMT students.

These funds will help NMT students buy gas and groceries, pay rent and utilities, travel home, or support their online technology needs.

Disbursement of funds to students is taking place now!

THANK YOU!

Paper Airplanes, Life Hacks, and Virtual Receptions

In addition to fundraising for NMT students, the Advancement Office has been using social media as part of the campaign to inspire, inform, and entertain alumni.

We’re hosting **Virtual Alumni Receptions** featuring faculty members - [check here for upcoming events](#).

We held online competitions (open to NMT alumni, students, faculty and staff):

A **Paper Airplane Challenge** was enticing to parents and kids alike. There were two categories, with first and second prizes* awarded in each: Longest Flight Time, and Most Creative Design. [See the results here](#).

Our **Life Hacks Competition** was open until May 8th - [see the contest rules here](#), and watch for results soon!

Check us out on [Facebook](#), [Instagram](#), and [LinkedIn](#) for other interesting stories, future competitions, and upcoming events!

Why a Newsletter?

In late 2019 the Advancement Office was considering ways to share more NMT news and stories with alumni.

After discussion, it was decided that a twice-yearly digital newsletter was the best choice. It will be published every Spring and Fall. We hope you enjoy this inaugural issue!

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NMT Heroes Among Us

Over the past few weeks inspiring stories featuring New Mexico Tech faculty, staff and alumni have crossed our desks (kitchen tables) and make us truly proud to be a part of this Tech family! We've collected a few on these pages.



Faculty Go All Out

Knowing the importance of hand sanitizer and seeing local supplies dwindling fast, Biology Postdoctoral Fellow Dr. Danielle Turner (left, B.S. and M.S. Biology, Ph.D. Biotechnology, 2019) and Professor Dr. Snezna Rogelj (right) began considering how they could help.

With a recipe from the World Health Organization (WHO), the duo headed to Jones Annex to get to work making hand sanitizer. Originally, their plans were to make enough to help the NMT and Socorro communities, however word spread fast. They are now getting requests for their hand sanitizer from around the state! [Read the full story here \(Socorro El Defensor Chieftain\)](#). And now [the formulation is available online!](#)

One early request came from an NMT student

During the extended spring break, an NMT senior generously opened up her Socorro studio apartment to another student who was unable to return home - his entire family in Albuquerque works in health-care and was in contact with COVID-19 patients. Albuquerque stores were soon cleared of cleaning supplies.

Desperate for PPE, the student's family reached out to him, asking if Socorro had any cleaning supplies. He asked his roommate, who reached out to President Wells, who contacted Dr. Rogelj and Dr. Turner - and they provided a gallon of hand sanitizer, face shields and other sterilization materials.

The family sends a big THANK YOU to the Tech community for the help!

Efforts Expand

With such high demand for hand sanitizer and knowing that the need for PPE is even greater, the efforts of the Biology Department to help combat COVID-19 have expanded to making simple face shields and high quality cloth face masks.

Dr. Rogelj and Dr. Turner provided out-of-work students with packages of materials to produce simple face shields at home. Currently five students are involved in this effort and have produced almost 500 simple face shields that have been donated to Socorro Police and other frontline workers.

Staff & Friends Sew

We have all seen variations of face masks that are making an appearance in public across the country. Most commonly, regular cloth or bandanas are being used. Dr. Rogelj began researching better materials and found that the sterilization material used to wrap surgical instruments for autoclaving is almost as effective as an N95 filter and provides much greater protection than regular cloth. **Vanessa Quiñones** (Biology Department Specialist) leads the NMT production efforts (*below*). [Read the full story here.](#)



If you would like to get involved in helping NMT produce PPE, please contact Dr. Danielle Turner, NMT campus coordinator for these efforts, at danielle.turner@nmt.edu.

Inspiring Acts

Producing and Distributing

NMT Energetic Materials Research and Testing Center (EMRTC) staff and a group of 13-15 students, inspired by NMT alum Clark Haskins (*story below*), have launched their own face shield production.

EMRTC Research Engineer **Meliton Flores** (*Mechanical Engineering, 2009*) and EMRTC Explosives Chemist **Tom Pleva** (*Chemistry, 2019*) are leading the operation involving twenty-five 3D printers and two laser cutters.

The greatest challenge so far has been resourcing a steady supply of material. If material supplies stay steady, they have the ability to produce over 1000 face shields a week. [Read the full story here.](#)

NMT "Makers"

The [AFRL Maker Hub](#) is a Makerspace in Kirtland AFRL staffed by NMT employees who train and assist users. **Liam O'Brien**, Director of Maker Hub & Manufacturing Collaborations for NMT, relocated four 3D printers to his home to begin producing high-quality face shields for local hospitals.

Since April 17th the group has collected 300+ frames and 400+ plastic sheets which were cleaned, sterilized, and vacuum sealed for distribution. Liam has personally printed 500+ face shield components and supplied over 700 plastic sheets for the shield itself. Distribution has begun to local hospitals and clinics.



EMRTC's Tom Pleva sanitizing shield frames

Student Develops Shield Design

NMT freshman Logan Byrom went home to Farmington, NM for spring break. He and his father John (PESCO Development Manager) heard that their local hospital was struggling to acquire necessary PPE, so they brainstormed ways to help and decided to produce face shields, a critical PPE item. Logan created, tested, and modified the design.

The idea soon became a partnership between San Juan College, PESCO and ABC Canvas, a local manufacturing business. The partnership has delivered over 200 face shields to the San Juan Regional Medical Center and a local family practice. [Read the full story here in the Farmington Daily Times.](#)

Alum 3D Printing Army

NMT alum **Clark Haskins** (*Computer Science, 2007*), bought a 3D printer, thinking it would be fun to tinker with during isolation. Little did he know that a few weeks and five additional 3D printers later (*photo*) he would be printing 180 face shields a day. To date, he has donated almost 3000 face shields to doctors and nurses across the country. Many friends are supporting his efforts by donating supplies or running their own 3D printer. Connect with Clark on [LinkedIn](#).



Research Frontlines

Dr. Jose A. Lopez (Chemistry, 1978) is a [Professor of Medicine, Hematology Division, at the University of Washington](#) and a [Full Member of Bloodworks Northwest Research Laboratory](#). He and his team have been working on COVID-19 research, and they were recently awarded an NIH grant to support their efforts. He generously shared information on his research with us:

To contribute to the war effort in combating SARS-CoV-2, we have begun work on developing serology tests that will specifically detect antibodies to SARS-CoV-2 in serum and plasma and not cross-reacting antibodies to other coronaviruses circulating in the human population. In this way, we can determine if an individual has been infected with the virus that causes COVID-19 and minimize false-positive results from previous infection with other coronaviruses. [Read more here.](#)

Homeschooling, Engineering, and Finding Your Path

Amanda and Jared Kuker came to New Mexico Tech as a married couple. After earning their B.S. degrees in 2012 (Amanda, *Materials Engineering* and Jared, *Mechanical Engineering*), they began graduate programs at The Johns Hopkins University and planned to pursue research jobs at a national lab (Jared) and a university (Amanda). Life, of course, has a way of changing people's plans.

In 2017, they began developing their own on-line business. Amanda has a strong interest in education and Jared had been homeschooled all through high school, so they decided to start a homeschooling support business with a STEM focus, [Blue Barrel Scientific](#), whose mission is to help students discover their ideal career field before attending college or trade school, thereby saving time and money on education, and more importantly, helping them discover fulfilling life's work.

[Blue Barrel Scientific](#) has engineering project kits, mini-labs, and podcasts about life in STEM. [Read Jared and Amanda's story here.](#)



Online Options

Looking for ways to escape the house without leaving the house? Interested in helping science from home? Kids need projects to work on?

[Click here to check out our list of virtual museum tours, science projects for adults and kids, and other activities for everyone!](#)



Student Success

Defending a dissertation is stressful at the best of times. Virtually defending in the midst of a pandemic is... well, just ask **Dr. Eshani Hettiarachchi** (shown left) She successfully defended her [Chemistry dissertation](#) the first week of April.

Congratulations, Dr. Hettiarachchi!

Alumni Connections

In early 2020, the Trebuchon family left their home in the south of France for a six month van tour of the U.S. While in Florida they met **Tom Duval** (*Hydrology, 1986*) and exchanged contact information. The family continued their travels west, but without Wi-Fi or cell service the escalation of COVID-19 surprised them and they found themselves stranded and unable to return home.

Desperate for a place to park their van, they contacted Tom. He got them in touch with **Amy and Greg Lewis** (*both Hydrology, 1985 and 1986*) who own property south of Santa Fe, NM. Amy and Greg were happy to help them - an NMT connection can go a long way! Read the story [here in the Santa Fe New Mexican](#).