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![](_page_0_Picture_15.jpeg)

Special thanks to Student and University Relations and Edie Steinhoff for contributions to content and printing.

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#### General

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#### **Relax and Unwind**

Crossword/Photo Contest	14	1
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### SGA Meeting Rundown: 2/4/20

- 1. The Dean of Students introduced the idea of bringing a Recyclemania event to campus. This would include cans, paper, etc, but no glass due to a lack of resources in town. The forming of a Committee on Sustainability was also discussed.
- 2. The SGA President presented a document comparing points of the NMTSGA Constitution to that of UNM, NMSU, and the University of Houston for the Senate's review.
- 3. The PR Committee has been the first SGA group to pass their Standard Operating Procedures, laying groundwork for their procedures and providing a template for other SGA Standard **Operating Procedures.**
- 4. It was informed to the Senate that the Opportunity Scholarship money, at the state level, was looped into the Lottery Scholarship as a one-time occurance. This Bill, known as House Bill 2, has been passed by NM's Legislative Finance Committee and is, as of the time of the meeting, to be voted on by the full house.
- 5. Despite this, the NMT Senate voted to send in the results of the school-wide poll regarding student concerns on the Opportunity Scholarship to the Governor, President Wells, and others, anyways. These were presented in an amended bill in support of the Scholarship, provided student concerns were addressed.

![](_page_1_Picture_12.jpeg)

Interested in photography? Like to win prizes? Submit a potential cover photo to Paydirt at paydirtnmt@gmail.com. The best photographer will win a Cards Against NMT deck, and their submission will be used as either the back cover or front cover photo for our next issue!

Photos cannot contain explicit, hateful, or otherwise inappropriate imagery.

Notice: Cards Against Humanity and by extension Cards Against NMT are satirical games and do not mean to defame any person, place, or entity in the card deck.

![](_page_1_Picture_16.jpeg)

### **READ BELOW TO WIN!**

### **Relax and Unwind**

comics.

Down

*"The main thing to do is relax and let your talent do the work." - Charles Barkley* 

# **Meet The Staff**

![](_page_2_Picture_3.jpeg)

Left to Right: Jaime Mendoza, Katelyn Green, Samuel Baca, Evelyn Byrd, Skyler Matteson

Skyler Matteson: Editor in Chief Evelyn Byrd: Journalist Samuel Baca: Photographer Jaime Mendoza: Layout Editor Katelyn Green: Journalist

> **Dog:** Hot Dog (not actually ours, but we wish he was)

![](_page_2_Figure_7.jpeg)

Created using the Crossword Maker on TheTeachersCorner

![](_page_2_Picture_9.jpeg)

![](_page_2_Picture_11.jpeg)

### **Sports and Athletics**

"I have just fallen back in love with rugby league again." - Sonny Bill Williams

### **NMT Sports Highlights**

Men's Rugby **Game Schedule:** February 22nd vs. NMSU (Away) March 7th Texas 7's Tournament (Away) March 14th 15's match vs University of Denver (Away) The NMT's Men's Team tied the Albuquerque Aardvarks 35-35 on Feb 1st.

Women's Rugby **Game Schedule:** February 15th vs. NMSU (Away) February 22nd vs. UNM (Home) March 7th vs NMSU (Home) March 28th Zia 7's Tournament (Away) April 4th vs. NMSU (Away) April 18th Spring Fling Tournament (Home)

**Hiking Trips** Saturday 2/1: Bosque Del Apache East Road Sunday 3/1: Bursum Springs in the Quebradas Saturday 3/28: Socorro Valley Bosque Trail Saturday 4/25: EMRTC Canyon

Registration for the hikes is REQUIRED and is to be submitted to Melissa's email by noon on the Friday before the hike. For more information or to sign up email Melissa at: melissa.begay@nmt.edu.

#### **Martial Arts Club**

**Training Times:** Capoeira: Tuesdays and Tursdays 6:30-8:00pm Room 1. Tae-Kwon-Do: Mondays 6:30-7:30pm Racquetball Courts, Wednesdays 5:00-6:30pm Room 1 and Sundays 2:00-3:00pm West Gym. Brazilian Jiu-Jitsu Tuesdays 8:30-10:00pm Room 1, Thursdays 6:00-7:30pm Racquetball Courts and Sundays 12:00-2:00pm West Gym.

#### **E-Gaming**

February 8th: Rocket League vs UT Arlington- 1Pm MST February 15th: Rocket League vs UT Dallas - 1Pm MST February 16th: Rocket League vs OU Crimson - 1Pm MST

![](_page_3_Picture_11.jpeg)

![](_page_3_Picture_12.jpeg)

![](_page_3_Picture_13.jpeg)

## **Que Suave Cafe**

Just off of Bullock next to Yo Mama's Grill, there is a new place for students to meet their coffee needs- and maybe even do some studying too.

The Que Suave Café is a locally-owned and operated coffee shop. Its newly renovated interior is clean and bright, with floor-to-ceiling windows that help give it a cheerful atmosphere. Relaxing upbeat indie music plays from a screen

![](_page_3_Picture_18.jpeg)

Que Suave is open from 6am to 6pm every day of the week. If you are looking for a good drink, to support a local business, or just to get off campus for a while, go check it out.

#### - Evelyn Byrd

#### **Socorro Striders and Riders**

The Spring 5K Series put on by the Socorro Striders and Riders (SSR) group is now out. Students may have noticed the flyers that were put up last week, listing a series of four races over the course of the semester. Having enjoyed the series last fall and wanting to learn more about the organization, Paydirt reached out and interviewed two SSR members.

John Leeper is in his third year as the SSR President. He has been in Socorro for six years, and is an enthusiastic supporter of the community. He is also involved with the Socorro Community Theater and acted in the production of Young Frankenstein last fall.

Lynette Napier is one of the more experienced SSR members. She did her first triathlon here 25 years ago, and continued to participate annually for another 15 years, until she turned 70. She continues to help SSR, with her biggest focus being the youth triathlon What keeps her going and motivated? "I do it for my grandchildren," she explained, of which she has eleven.

According to its mission and bylaws, SSR is "dedicated to the promotion and encouragement of long distance running, bicycling, swimming, walking, it easier for Socorro residents, especially and duathlon/triathlon training, as well as increasing public awareness of the overall health and emotional benefits of regular exercise." On campus, they are best known for their fall and spring 5K series. They also hold annual adult and youth triathlons at the beginning of Additionally, SSR helps a variety of August. And members mountain bike in the surrounding area and share their information in the Socorro Fat Tire Trail Guide and with the MTB project

(see socorro.com/ssr/TrailGuide).

The 5K runs are very accessible. "We have senior, big, small, young, and old folks," John said. Lynette explained that there are people running "from 5 to 80 years old." And the runs "really are fun," said John, with themes like the upcoming Valentine's day run. Folks run in costume and can win prizes, like pumpkins for Halloween, candy for Valentine's day, and cash for the fastest individuals. Overall, the races are a really positive, welcoming experience. They are a great option for those interested in just getting out there and being active.

SSR is also a bridge between Tech and the City of Socorro, with students, faculty, and staff as well as community members participating in its events. As John explained, both Tech and the City have been "incredibly supportive," even though they "don't have to be." He great resource. likened the experience to a "red carpet" for the group. And, Lynette attested that this has been true "right from the beginning."

With this in mind, one of the club's goals is to increase the amount of bike racks around the city. This would make car-less students, to get around in a healthy and environmentally friendly manner. They could also be a part of the beautification of the city, with interesting local designs.

causes with its runs. Upcoming are the Connor's Causes race supporting cystic fibrosis patients and the Spurs and Burs race supporting San Antonio

Elementary. Other causes include the Run for Your Life for Presbyterian Hospital, the Turkey Trot race with a food drive for the Socorro Storehouse, and Toys for Tots. Additionally, SSR provides organizational support for groups to put on their own races as fundraisers. This is a great help to groups such as local sports teams. Finally, SSR is willing to aid individual racers in attempting longer, more logistically challenging races.

SSR just wants people to get out and be active. John's advice for students is, "Just do it. With so much stress from school, students need it more than ever, and they are so much more than welcome." He emphasized that it does not need to be a huge commitment, and that even a little more exercise can really help with grades and mental health. Lynette echoed his sentiments, and added that "the [NMT] gym is amazing" and a

The first race of the spring 5K series is the Valentines race on Saturday, February 15. For more information, race times, and news visit stridersandriders. blogspot.com.

#### -Evelyn Byrd

![](_page_4_Picture_14.jpeg)

### **Elizabeth Roberts-Victorian Kickboxing**

Elizabth Roberts, also known as Lizzy, is a freshman here at New Mexico Tech studying Biomedical Science. Lizzy started boxing only about a year ago in Moriarty New Mexico where she is originally from. Last August she opened up her own gym here in Socorro called Victoriam Kickboxing. She teaches classes and trains for her personal fighting career all while managing the gym herself. She said, "I know a year doesn't sound like a lot of time, but I was in the gym prior to boxing 7 days a week 2 hours a day for about 7 months. I put in a lot of hours to get to where I am physically today."

Lizzy's original plan was to come to Socorro and continue training, but when she found out that there was no gym in Socorro to train, she created her own. She teaches several different classes. These include kids classes Mon-Wed-Fri from 6-7pm ages 6-12 years old at \$100 a month, teen and young adult's classes Mon & Fri from 7-8pm at \$65 per month, and women's cardio Sat at 9am and Wed from 7-8pm Lizzy has big future plans when it comes to her personal at \$45 for once a week and \$65 for twice a week. She said, "Tech students only have to pay \$50 for the teen and young adults class and everyone's first class is free if you want to come try it out." Her gym is located at: 213-215 Fisher, Socorro NM 87801 inside the Rising Stars Dance Studio.

![](_page_4_Picture_18.jpeg)

When Lizzy was asked what she loves most about boxing, she said, "Boxing is such a fun way to stay in shape and I personally fight, so I enjoy training myself to fight other opponents. There is such a huge adrenaline rush and I just love the feeling you get when you step into the ring to fight." Kickboxing isn't just about fighting for competition, Lizzy

![](_page_4_Picture_21.jpeg)

said, "Some people don't like to fight and that's okay, to kickbox you don't ever have to fight anyone if you don't want to. You can always just come for the workout."

boxing career. She is going to stay local right now and has a fight coming up later in February. She hopes to end up competing in the State Golden Gloves Tournament and then Regionals. If she wins in either of these tournaments she hopes to go to Nationals. If she continues to win, she wants to fight internationally at some point in her career. She also mentioned she wanted to try out for the Olympic Boxing Team in the future.

![](_page_4_Picture_24.jpeg)

Lizzy really wants people to come out and try kickboxing. According to her, It's a great way to meet new people, a great stress reliever, and a workout that's fun and keeps you in shape. She hopes to see more people come try it out and wants this information to let the community and our readers, Tech students, know that it's available.

For more information about taking some classes contact Lizzy at: elizabeth@victroiamkickboxing.com or 575-224-2156.

#### -Katelyn Green

### John Racette

How long have you been doing Parkour? J: Since I was a sophomore in high school, Four years?

What's the hardest trick that you can do? J: Side in Full out, you do a side flip and then a full twist after.

What's the difference between Freerunning and Parkour? J: There's a difference between Parkour and Free running. Free running can involve flips while parkours objective is to get from point a to point b as quickly as possible. Free running is an adaptation of parkour the is more focused on style rather than efficiency.

Which do you prefer to do? J: I always prefer to do FR but it's a nice change of pace to do parkour.

What got you into parkour? J: I got involved in American Ninja Warrior training and slowly fell out of love with that. My friend and I then began to train in the streets.

*How do you train the streets?* **J**: Since College I have been training once a week on Sundays in Abg and occasionally in Socorro. Early in the morning I will go scouting for spots to do tricks and jumps. I also hit the gym before my morning classes

How don't you get distracted by your mob of fans? J: I use my parkour skills to keep a good distance from them.

*Do you have a girlfriend?* **J**: I do

So how do all of your fans take that? J: That I have a girlfriend? Well, I'm sure they understand.

Have you ever gotten any injuries from parkour? J: I've had a few major injuries but never from parkour.

Has Parkour helped you in other parts of life? J: The mindset I have developed in Parkour has helped me get over fears more easily in other facets of life.

What's your favorite quote or motto? J: I'm not really a quote guy.

![](_page_5_Picture_14.jpeg)

![](_page_5_Picture_15.jpeg)

Go See Do "I am unboreable in the great outdoors." -P. J. O'Rourke

## **Caving Club**

The NMT Caving Club is promising increased activity this spring. A longstanding club which has seen reduced activity in recent semesters, it has new leadership that is motivated to share the unique activity of caving with beginners and veterans alike.

The club was founded more than two decades ago, and for many years the primary leader was David Hunter. His departure from Socorro after his graduation in 2018 took with it more than a friendly face and a plethora of wolfpatterned T-shirts; it also took a wealth of local cave knowledge and contacts that other students struggled to function without.

However, this void is now being filled by some other individuals. Noah Hobbs, the new club President, has experience with cave rescue work. Other officers include Tyler Mobraten, Eshani Hettiarachchi, and Connor Whitman.

Dr. Daniel Jones, Ph.D., is the faculty advisor. Dr. Jones is an Assistant Professor of Geobiology in the Department of Earth and Environmental Science, as well as the Academic Director of the National Cave and Karst Research Institute (NCKRI). His research is focused on "microbial sulfur cycling and microbe-mineral interactions in cave systems," and has included fieldwork in caves in Italy.

Club meetings will be the second Tuesday of the month at 6:30pm, location TBA. The first trip of the semester is scheduled for the weekend of March 7-8 to the lava tubes of El Malpais National Monument.

You can request to be added to the email list at https://lists.dragonsdawn.org/listinfo/nmt\_caving, and further information and trip reports are available at https://www.dragonsdawn.org/nmtCaver/index.html.

#### - Evelyn Byrd

![](_page_5_Picture_25.jpeg)

#### **Mechanical Properties of Bicrystals**

Paydirt has showcased its fair share of campus research within its pages, but as I was brainstorming articles for this issue, I was having a hard time remembering the last time Materials Engineering was centerstage for such a *researching*. piece. As such, I decided to interview Audrey Campbell, a graduate research on FCC and student in the department studying the mechanical properties of bicrystals am looking at under Dr. Choudhuri.

![](_page_6_Picture_2.jpeg)

When and why did you choose this research? How see how they did you get in touch with affect mechanical Dr. Choudhuri? A:I started August of last semester. Why I started relates to how I met Dr. Choudhuri. This is my 3rd semester as a grad student, but when I started, none of the graduate position. At the beginning of last

semester, I asked Dr.

Burleigh [the head of the Materials Department] to switch to the new Masters of Engineering degree, but he said to talk to Dr. Choudhuri first. [Dr. Choudhuri] told me about his research, and it is similar to what Dr. Hargather does. I enjoyed her classes, so I figured I'd enjoy working for Dr. Choudhuri.

with Dr. Choudhuri like?

A:He knows whether or not he wants to work with someone. Usually you have this dance with people you are trying to work with, but Dr. Choudhuri is good at selecting

someone [right off the bat.]

*Briefly describe* what you are **A:**My thesis is B2 bicrystals. I two different orientation relationships to

properties. These include strain rate on deformation, temperature, fracture strength, adhesive strength, and dislocation motion across the interface: where the two structures meet.

Will you be publishing a paper? What is *the end goal of your research?* professors had an open A: The overall end goal is to get a Master's Degree. But in the meantime, it's to publish papers. I actually recently published a paper with Dr. Choudhuri. At most I plan to publish 3 papers, most likely 2. Most of my research is on laying groundwork. As you get smaller and smaller [sample sizes] of bicrystals, forces can change. At some point you don't have a big enough sample to get accurate results. Too much takes too long to run an experiment and costs too much. The main part of my research is taking What was your first experience meeting the same set of experiments and replicating them with larger and larger sample sizes to achieve a stable set of results.

> What does a normal day of research look like? What software do you use?

![](_page_6_Picture_12.jpeg)

A:I don't conduct physical experiments; all of my work is simulation based. I used LAMMPS, which is a molecular dynamic simulation program provided by Sandia National Labs. In addition to LAMMPS I use a program called Ovito, and Python. Ovito takes data output and turns it into a 3-D rendering. A typical day of research basically revolves [around] me trying to get progress to work on LAMMPS, putting the results in Ovito, and then seeing if the results were expected.

#### What's the best and worst parts of your research?

A:Anytime I get something to run. I am NOT a programmer. The worst part is the weeks it takes me to get to the best part.

#### How has the Jones construction affected you?

A:It hasn't really affected my research, but it does affect my ability to teach labs. The move didn't really finish until the end of the end of the first week of the semester, so it can be really hard to find equipment.

-Skyler Matteson

#### **Photos By: Samuel Baca**

![](_page_6_Picture_20.jpeg)

### **Natural Product Chemistry**

Timothy Chavez, also known as Tim, or as a lot of people like to call him, Timmy Jimmy, is a senior here at Tech majoring in Chemistry. When Tim first arrived at Tech he was a Petroleum Engineering major, but once he took a few Chemistry classes he realized that he loved Chemistry a lot more than Petroleum Engineering. The professors in the Chemistry Department convinced him to switch majors and he hasn't looked back since.

![](_page_7_Picture_3.jpeg)

Tim works in the Rodolfo Tello-Aburto Lab and mainly does research with Natural Product Chemistry, with an emphasis in biological and anti breast cancer activity. Tim has attended several events: the American Chemical Society Nationals conference figure out why it didn't work." Tim in Orlando Florida in 2019, local conferences like the Student Research Symposium at Tech, Emory University accurate results are. He said, "In my in Atlanta where he did research over the summer, and he has done several talks about his research in Southern California.

The research that Tim enjoys the most is natural product synthesis, which is basically organic chemistry. He will take a natural substance found in the wild either from fungal bacteria or plants that exhibit some type of biological activity such as anti cancer or anything of interest. These biological activity's that he looks at could benefit society and he looks at the molecular structures of these natural substances. Tim produces such natural products and can choose whichever natural product he wants. These structures can be very complex and pose problems. Tim said, "I view

this situation kind of like it together starting from affordable, quick, and efficient with the best plan possible to move forward in the research at hand."

Tim has learned many things from doing research at Tech. He said,

"I have learned about perseverance, character building, and to always keep going. When a reaction in chemistry doesn't work, some people get upset because it failed, but this fuels me to keep going and rerun the reaction and looks beyond himself when he does his research and realizes how important mind it's more than just me working on this project, it could be a possible cure for cancer or another important treatment to a disease and that's why I take my work very seriously."

Tim is helping the scientific community and adding knowledge to

the science community in other places besides Tech. Tim said, "I have learned a lot from conducting research. It has really narrowed my scope down to help me understand organic chemistry. Its one thing to take Organic Chemistry 1 and 2 and do things on paper, but when you get your hands in the lab you realize it's not as simple as writing an arrow with a couple of reagents. I gained a lot of knowledge from hands on work while working in the lab."

a puzzle and try to piece Tim's future plans are to go to graduate school. He is still undecided of where the big picture and seeing he will be going right now, but is how to make the project leaning towards going to the University of Arizona where he wants to further pursue his research in natural product chemistry and eventually obtain his PHD. Tim ended his interview with a smile and said, "If you hate chemistry don't worry, it loves you back." -Katelyn Green

![](_page_7_Picture_13.jpeg)

### Autonomous Technology and the College Experience

It's no secret that parking seems to be a pain point among college students on several campuses across the United States. According to the New York Times, the University of Wisconsin-Madison has one parking space to every five people, and approximately 65,000 students. The campus plans to add an additional 2,200 parking spaces over the next twenty to forty years, which seems like a long time for a campus and student body that is continuously growing. In fact, the application rate at the University of Wisconsin-Madison increased from 2 017 to 2018 by 20%.

Transportation and parking remain an ongoing issue among campuses everywhere. A college student at Florida Atlantic University recently highlighted her frustrations with campus parking. "I was rushing to class for a Monday morning lecture that began at 8AM. At 7:59, I was nowhere near the building for my course because I had to park so far away. I awkwardly walked in at 8:17 and interrupted the professor's lecture. On top of that, I needed to arrive early to put finishing touches on a paper that was due at the beginning of class. If I had access to better, more reliable modes of transportation, I would take it."

Among the many public state universities, most are thousands of acres wide. The University of Florida, for example, is sprawled over 2,000 acres of land. With bus systems unable to service the demand and not enough parking space for students, students need an alternative transportation solution that is timely and efficient.

Autonomous vehicles have become a de facto mode of transportation for the future. While we're still in the early stages of the evolution of this technology, fixed-course autonomous shuttle vehicles could be a true transportation solution for

college campuses. The use of controlledspeed timed shuttles that would allow students to travel between campus destinations will be revolutionary for universities that experience crowding or issues with parking.

Most importantly, autonomous vehicles don't get distracted by their surroundings or mobile devices like students and other Autonomous shuttles can be a more efficient and eco-friendly method of drivers can. According to the 2016 Fatal transportation for students as well as Motor Vehicle Crashes report by NHTSA, providing a more relaxing mobility human error and poor judgement are environment. Rather than students the leading causes of traffic accidents parking their vehicles, and then travelin and deaths on our roadways. Federal and local governments, insurance companies, via foot to class, they can relax and work on schoolwork while the shuttle the medical community, and other takes them to each destination. In groups are pushing for the introduction of autonomous vehicles to reduce this fact, autonomous shuttle technology alarming statistic. There is plenty of has already been introduced to several research to validate that autonomous universities as a means of transportation. The University of Michigan and California vehicles and equipment will dramatically State University have both recently improve safety in all applications, making incorporated autonomous shuttles (also campuses safer when autonomous known as "people-movers") onto their transportation is deployed. campuses.

Furthermore, autonomous shuttles will be able to help students with physical disabilities where walking for what can sometimes be up to a mile to get from one class to another is difficult. While most universities have disability services available, very few of them include efficient, timely transportation. Providing an easier way to get around campus will greatly improve the overall college experience for disabled students and faculty.

Another benefit of autonomous shuttles is the safety. Autonomous Vehicle technologies are advancing and improving - Joe Moye every day. Today, an AV does not see and interpret its surroundings exactly as a human would and therefore lacks a certain level of intuition. But, on the other hand, autonomous vehicles react to motion and events at a rate of two to three times faster than a human can and the use of artificial intelligence will continually

improve the needed interpretive logic which will ultimately create a much safer transportation mode than human driven vehicles.

In conclusion, with parking continuing to be an increasingly difficult (and expensive) problem on college campuses, providing students with an alternate mode of transportation could solve many campus transportation issues while providing other benefits. Bringing autonomous shuttles to college campuses would greatly improve the overall safety and productivity of the students, teachers and staff and having innovative, ecofriendly and convenient options increases the attractiveness of campus life - an important consideration in the college selection process.

![](_page_7_Picture_26.jpeg)