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# PAYDIRT

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**Athletic Issue**  
October 14th, 2019



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## SGA Meeting Rundown: 10/8/19

1. There will be a Costume Contest on the day of Halloween, most likely held in Fidel. Simply register your costume with the judges the day of. Group costumes are allowed. The reward is an amazon gift card.
2. In case you didn't know, this week is the 100th anniversary of 49ers. Several events will be taking place:
  - a. Comedy Night
  - b. Tailgate party
  - c. Parade
  - d. Concert + Waffle Rave
  - e. Casino Night (Still looking for dealers for roulette, blackjack, etc.)
3. The next Board of Regents meeting will be the Friday of 49ers at 1pm in the Galena Ballroom at Macey Center.
4. KTEK Radio is up and streaming. More DJs are being contacted for additional material on the stream.
5. The Justice position is still open, and will be done by vote/interview.

# Miscellaneous

## Paint the M

"Paint the M" is one of the biggest events of 49ers, but its origin is a bit of a mystery. Back in the early 1900's, painting letters on mountains or other convenient outcroppings was even more popular than it is now. So, in about 1910, the New Mexico School of Mines (as we were then known) joined the trend and started painting our own M on the mountain in lime.

At the time, Colorado and Montana Schools of Mines both had M-ed mountains; Colorado's was about 104 x 107 feet and Montana's was about 90 x 90 feet. NMT's M, in addition to being much higher and more difficult to get to, is about 150 x 110 feet. Not, of course, that it was or is a competition...

The Colorado M also plays an important role in the colorful history between our schools. As most NMT students, especially those from Colorado, can tell you, NMT and CSM have been rivals for a very long time. Conveniently, the CSM M is not only much smaller, but at the time was only guarded by a fence tightly wrapped around its perimeter. In 1990, an enterprising Techie decided that the

M would look much better bounded by an N and T and took steps to make it so, spelling out NMT for the world to admire. CSM never made an attempt to retaliate.

Now, in just a few weeks, students will once again trek up the mountain. Those who desire to carry lime can do so, to help give our favorite mountain a facelift and potentially win glory and prize money. Those uninterested in that can still hike up, unencumbered, and admire the incredible and unique view of Socorro. And everyone can wonder at the many Techies who came before us, struggling, to finally reach the top.



# Science and Research

*"Never give up! Failure and rejection are only the first step to succeeding." - Jim Valvano*

## Sports Science

For this article, I decided to tie the academic rigors of NMT to this sports-themed issue. Sports science is a complex field of research looking at how the human body operates during exercise. It is most often associated with psychology, physiology, and biology, but can have other applications as well. It is crucial for understanding how to construct human-like robots as they are based off of the muscles and exercise patterns similar to athletes. One such example includes bio-bots programmed for swimming.

At the University of Illinois, professors Taher Saif and Rashid Bashir created a generation of singled-tailed robots using cardiac tissue. However, that generation, based on sperm cells, could not sense their surroundings or make decisions. A second generation was created consisting of two-tailed robots powered by skeletal muscle tissue and motor neurons. In the experiment, the neurons formed junctions with the muscles and created a swimmer on their own. Using models, the team then calculated how to manufacture an optimized body for the swimmer. Because the synthetic hybrids are biological, no two systems will be the same.

A similar kind of research was done at the University of Tsukuba. Professional swimmers often wriggle like eels at the beginning of races to accelerate quickly, but before this research, the reason as to why was unknown. An experiment with a swimmer was conducted, and it turned out that the wriggling motion causes tiny vortices to form from the front to the back of the swimmers feet. Afterwards they leave their connection to the body and form a 'vortex wake' that propels the swimmer forward.

Other areas of sports science research are closer to the consumer. At Dartmouth College, a computer science team produced a sensing fabric that can help right arm angles to increase performance, prevent injury, and in the case of an injury, speed recovery. The fabric is comfortable, washable, and low-cost, costing less than other athletic gear (some estimates are around \$50). It is made of nylon, elastic fibers, yarn, and a small silver layer for conductivity, allowing data to be received and processed.

In the same light, researchers at Rice University and the University of Maryland are close to creating artificial tissues to restore bone and cartilage damaged in injuries to various joints. These tissues are 3D printed, but the issue the scientists are facing right now lies in that the tissues need to perfectly fit their patients to meld with the existing bone and cartilage correctly.

Credit to Science Daily for providing the articles used for this piece. To read more on the advancements in sports science, look up their webpage here:

[https://www.sciencedaily.com/news/matter\\_energy/sports\\_science/](https://www.sciencedaily.com/news/matter_energy/sports_science/)



## GSA Meeting Rundown: 10/1/19

The GSA advocates for graduate students, runs events, awards grants, and generally supports the grad student community at Tech. It consists of student volunteers from each department. By serving as part of the GSA and helping run events, grad students win volunteer points towards funding for their own work. This meeting covered the following:

1. Dr Aly El Osery is serving as Interim Graduate Dean.
2. Department reps are still needed for a few departments, including Electrical Engineering.
3. The fall Grad Student Picnic was a success, with 134+ attendees.
4. The spring travel grants funding period is now open.
5. Upcoming events include:
  - a. 49ers Parade
  - b. Thanksgiving
  - c. Interdisciplinary Symposium

Any comments or concerns should be directed to [gsa@npe.nmt.edu](mailto:gsa@npe.nmt.edu). For more information visit [nmt.edu/gsa](http://nmt.edu/gsa).



GSA 2019-2020 Officers (left to right) Maria Pineda (appropriations), Catalina Vanegas (Events), Eshani Hettiarachchi (Information), Jose Martinez Claros (VP), Henry Prager (President) and Isaac Foli (Travel Grants).

# Go. See. Do.

*"Life's supposed to be an adventure, a surprise!" - Anton du Beke*

## The Bike Club

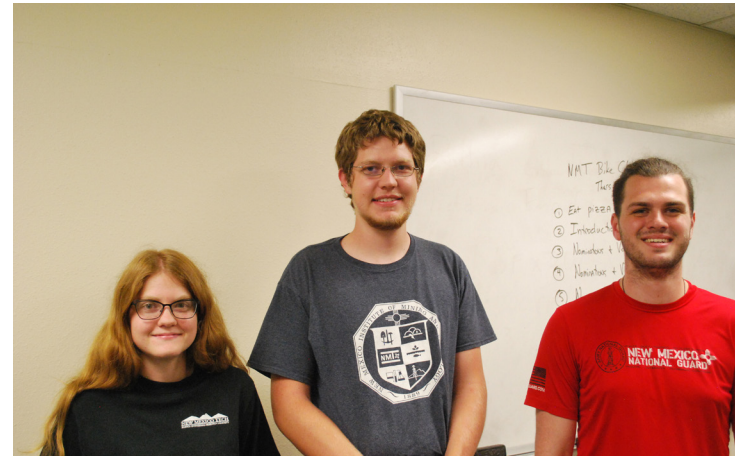
According to Dr. Burleigh, the Bike Club has been around for ten years, and he himself got involved around 2011. Every Wednesday the Bike club does bike repairs for anyone and everyone, and only requests donations for their services.

Their number one service according to Dr. Burleigh is "putting slime in people's tubes." For this service Bike Club requests one dollar, and for a new inner tube the donation is at five dollars. Repairs on the bikes can also be much more complicated, including trying a tire or adjusting shifters on the bike.

Bike Club also offers loaner bikes to tech students for getting from class to class or for weekend excursions. I myself loaned a bike to join the club on one of their Wednesday evening bike rides. After going on this Wednesday evening bike ride while the sun fell behind M-Mountain I couldn't help but enjoy the scenery and breeze through my hair. I plan to join Bike Club on future excursions by loaning bikes.

In addition, the Club will take a school van and multiple bikes to go do rides all around New Mexico. Occasionally they will get involved in races and competitions of all types of biking, from going to Angel Fire and competing in downhill mountain biking races to going to bike a century (100 miles) at the Day of the Tread.

The most popular activity the Bike Club puts on is its occasional raves. The bikers will get in a large group and decorate their bikes with as many lights that they are able to put on and as a large group will bike around Socorro as a fun social activity.



*"On or off the field, practice and teamwork are the key to success." - Malcolm Jenkins*



# Student Spotlight

"Student life taught me a lesson ... Be straightforward and bold in whatever you do." - Mamata Banerjee

## Topher Blue

Topher Blue is a sophomore pursuing a Mechanical Engineering degree here at New Mexico Tech. He is a member of our men's soccer team, and seeing as I had recently interviewed their coach and this issue is sports-themed, I ruled to interview him next.

*Why NMT?*

T:It was the cheapest school in New Mexico, and the best in New Mexico. I liked science; I wanted to be an engineer.

*When did you start playing soccer? Why?*

T:When I was really young, before I hit 10, because my dad was a huge soccer fan.

*Were you thrust into it?*

T:Ya, pretty much.

*Why do you enjoy the game?*

T:I like being active and I'm decently good at it. I'm competitive.

*Do you think playing the game positively impacts your career?*

*Such as teaching you something, etc?*

T:I don't think it impacts science/engineering, but it definitely helps with team building, that kind of stuff.

*Do you play any other sports?*

T:No. I played basketball when I was like 12. I was not very good; I quit after two years. I don't remember who got me into basketball, I just remember being there.

*Do you have any hobbies?*

T:Drawing. I like to draw a lot, sometimes I draw too much in class. Video games, watching anime. Oh ya, I work out, I forgot about that part.

*What do you like to draw the most?*

T:Monsters. I drew them when I was little, and now they're the thing I'm best at [drawing].

*Do you have a second career choice if engineering doesn't work out?*

T:Probably some business degree, like economics. I worked with a buddy who started a small business, he sold boba tea.

*What are your favorite and least favorite parts of NMT?*

T:My favorite part of NMT is that I can hang out with my friends all the time. My least favorite is that there aren't a lot of people here, if you know what I mean.

*How about for classes?*

T:I like math. I know, weird. I like them 'cause I'm doing well and I understand it. Shoutout to Cap'n Phillips. Least favorite was English. I really don't like writing papers.

*What are your dreams and aspirations?*

T:To be really good at drawing, to get swole as fuck, and I guess maybe graduate.

*We recently interviewed your coach. What are your thoughts on him?*

T:I love Master Oxford. He's one of my favorite two coaches I've had in my life.

*What's your favorite pokemon?*

T:Charizard. Ya, original.

*As a closing statement, what's your motto going into games?*

T:I guess to do my best. 'Don't fuck up.'



## Bike Club

"If biking is your passion, set aside time to enjoy a good ride." - Patrick Dempsey



## Men's Rugby



### Go support the Men's Rugby team!

- **When:** October 19th
- **Where:** NMT Athletic Field
- **Time:** 3:30 p.m.



## Women's Rugby

Despite being known for our academics, not athletics, Tech does have a fairly robust sports program. One of our main sports is rugby. The women's team has been around for about two years, while the men's team is fairly well established. Now, with a new coach and growing interest, it is an exciting time for the program. Women's Team President Brisa Garcia and Team Captain Samantha Goldberg were happy to tell Paydirt more about the sport, the team, and where it is all going.

Rugby is a sport with the fast pace of soccer and the strategy and physicality of football. Paradoxically, you play by passing backwards as you run forwards. The number of people on the field can vary from 7 to 10 to 15, and game play changes greatly between each. And, the only protection players wear is mouthguards, so they have to learn safe technique to avoid injury.

Garcia, a Mechanical Engineering senior, is one of the original Pygmy Queens who helped set up the program. She has been playing for about five years, and says she has "never loved another sport more." After she got her first tackle, she was hooked, she explained, and her dedication to the team is clear. As president, she works hard on the logistical side of the program: she is in charge of social



media, and is constantly reaching out to other teams in the region, networking, and setting up matches.

On top of this, she works two jobs and is making it through school here at Tech. How does she do it? "Time management," she says. Figure out your schedule, remember that school is the number one priority, learn how to balance, and don't stress. She makes practices when she can, and works out on her own when she can't. She encourages anyone who is interested in rugby to just give it a try. "Literally anyone can play," she states, eager to share her favorite pastime with others.



Goldberg, a sophomore who has been playing rugby for eight years, echoed this sentiment. She explained that "it is not a scary game" and that the team is all about having fun and learning control. It is not dangerous unless you do something wrong, she said, joking that "it's not football- we know how to tackle." You will get into shape, and according to Garcia, "there's no shape like rugby shape."

With only about ten women on the team, it is definitely a close knit group. "You get a family out of it," Garcia says, and Goldberg agrees, with the

community being her favorite part of the sport. Even between teams, animosity stays at a minimum. No matter what, the rugby players are there for each other.

Both Garcia and Goldberg are very excited about how well the team played during their last games, and are looking forward to upcoming matches. The next one will be the Alumni game over 49ers. It will be at 3:30 pm on October 18th on the Tech athletic field. And if the rivalry between old and current Techies was not enough, there is another twist: the players will be wearing prom dresses. Undoubtedly, it will be a match to remember.

### Go support the Women's Rugby team!

- **When:** October 18th
- **Where:** NMT Athletic Field
- **Time:** 3:30 p.m.

