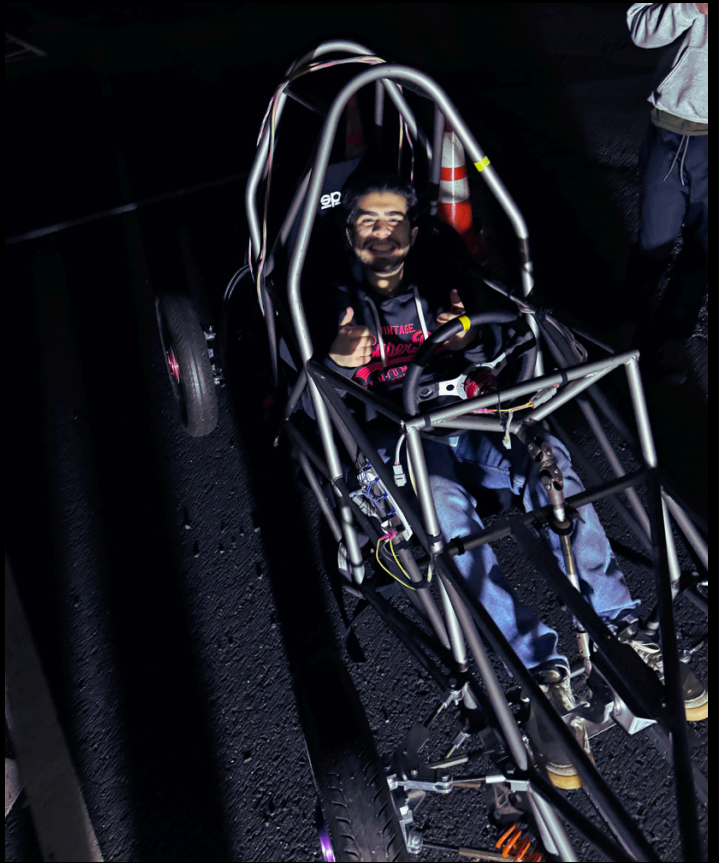
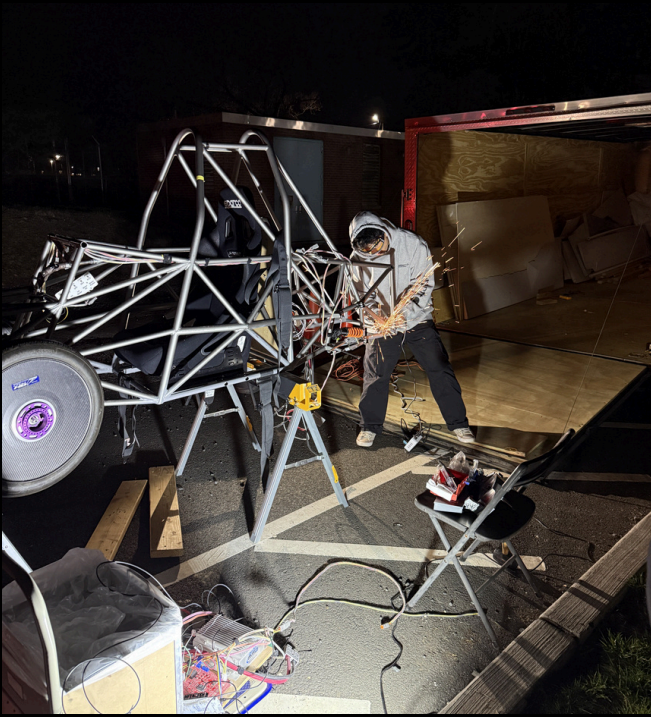




RUTGERS SOLAR CAR TEAM



March has been like being stuck in a whirlwind! From welcoming a brand-new e-board, fresh teams, cool headshots to hosting a awesome trivia night and finished rolling chassis!!—it's been a month packed with energy, excitement, and a whole lot of hard work. Lets dive into it!

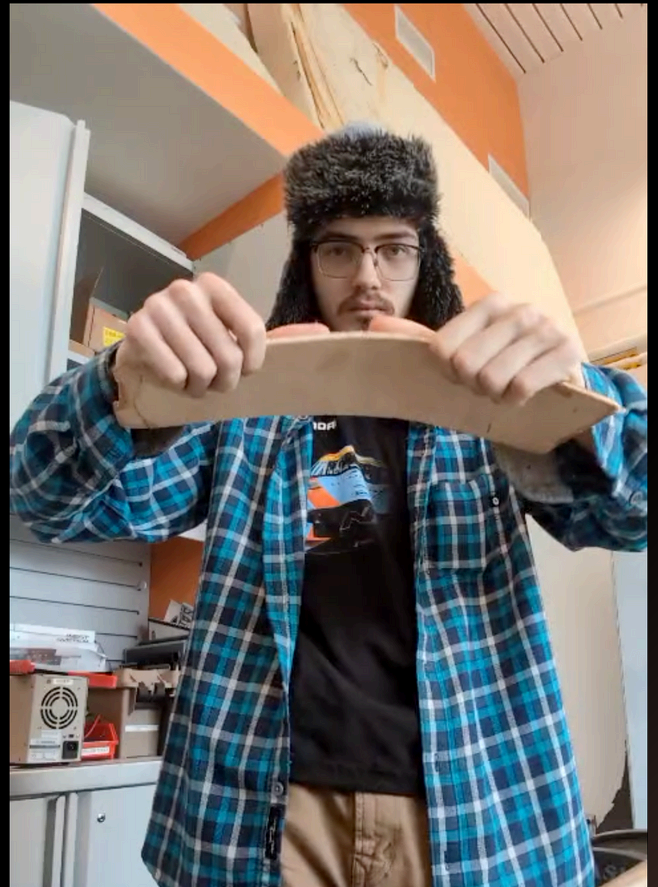


AERODYNAMICS & COMPOSITES

This month, due to not having the necessary space for the construction part of our very large car, Aerodynamic and Composites have made a great pivot towards creating a new deadline and a new plan. This plan now consists of pivoting the manufacturing plan towards focusing on brainstorming and designing any possible venture that would allow for the shortfall of space.



One such future focuses on building the canopy and top mold with composites, whilst the bottom of the mold will be built with either vinyl, plywood, or sheet metal. This is not the final course of the brainstorming process; however, exists as a skeleton from which we could build. The main focus of any alternative processes we take is ensuring that the car can be built quickly and easily without too much effect on the car's aerodynamic capabilities. For the near future, we are focusing on a car that sufficiently passes all regulatory requirements, after which we plan on building a car with nuances and makings of being the best possible.



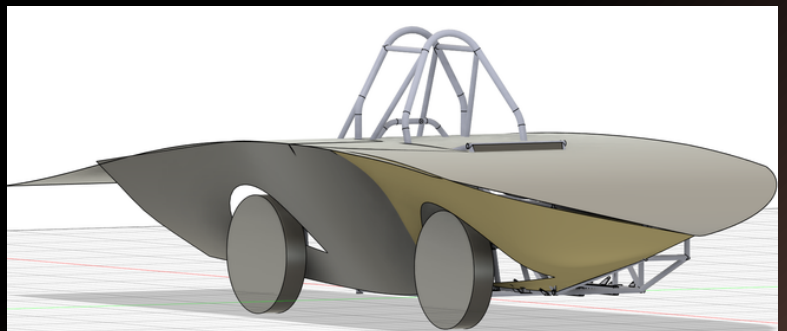
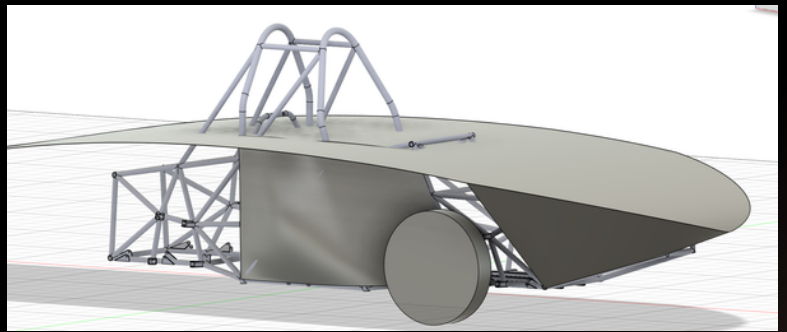
To get to that point, some preliminary testing on materials has taken place. Checking out a sheet metal yard allowed for a greater grasp of metal requirements and a general understanding of what needs to be done. We have also formed some plywood using water sprayed onto wood and heating and bending it to create a formidable choice for aerodynamic purposes; we have also ordered some vinyl/film samples.

AERODYNAMICS & COMPOSITES



With that being said, if it's possible to find a location that provides the following requirements, the future Rutgers Solar Car team would be eternally grateful.

- Enclosed space that has a large door/garage door
- Temperature controlled
- Good ventilation
- Close to the Rutgers Solar Car Team Headquarters ("The Space")
 - 140 Bevier Rd, Piscataway, NJ 08854



ELECTRICAL



HIGH VOLTAGE

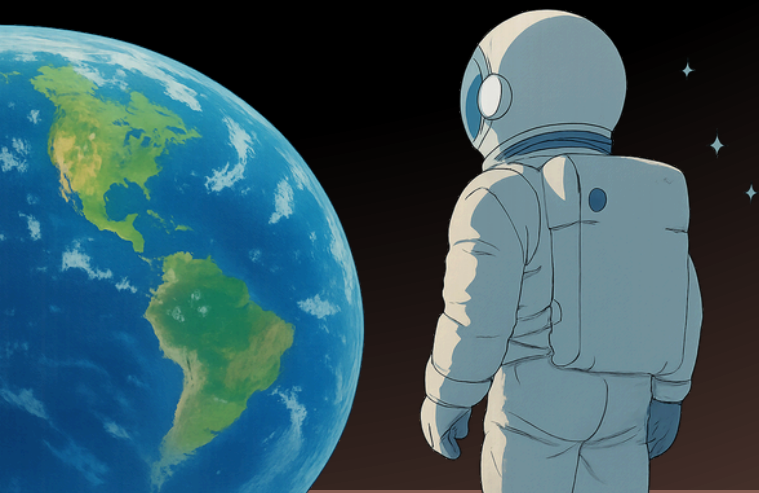
The High Voltage sub-team continues to deliver on the car's electrical systems. They have acquired a new, stronger material for the car's battery box called FR4. Our current battery box is made of wood, but with this new material the High Voltage sub-team can now upgrade the battery box to be safer and more durable. Additionally, they've powered the MPPT, a critical device in the car's electrical system that works between the solar cells and the battery. Although the sub-team encountered an issue with their custom-made pre-charger, they were able to fix it well before this newsletter issue was released.

LOW VOLTAGE

The Low Voltage subteam has been working hard to integrate our car's communication systems. The CAN communication system they developed has reached a basic level of functionality. By achieving said basic functionality, the Low Voltage subteam can now scale the CAN communication system to the full size of our car.

SOLAR

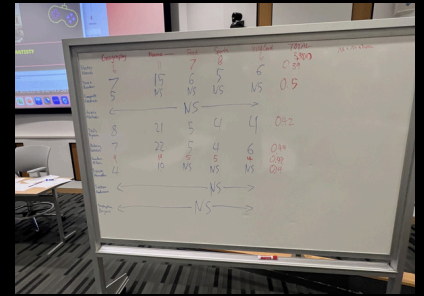
This past month, the Solar sub-team has stepped on the "gas" pedal. They have encapsulated eight out of the 64 required solar panels for competition in the week before this newsletter issue was released. Eight solar panels does not sound like much compared to what's required for competition, but the time invested to complete those eight solar panels is enormous. According to the Solar sub-team, it took four hours to cut the material and another three to four to test the cells, fix any solder joints, and build the panel stack. On top of that, the encapsulation process required another three to four hours.



BUSINESS

On April 4th, we co-hosted trivia night with Rutgers Propulsion Lab. With 52 questions spanning five different topics, participants competed to win three Dunkin' Donuts gift cards and complementary trophies. To summarize in one word, it was a BLAST for the participants. It was so successful that we are considering making trivia night an annual tradition within Rutgers Solar Car!

Getting back to the business updates for this month, logistics have been pacing away, focusing on the elements of traveling and participating at the New York Auto Show and FSGP. Logistics are still searching for a trailer meeting our required specifications [attached below]. As of the New York Auto Show, the event is April 18th to the 27th, the 125th anniversary of the event. This event offers a multitude of events like the Camp Jeep events, which allow participants to drive a jeep over an obstacle course. More information can be found on the New York Auto Show's official website.



In terms of finances, the finance team has been working on the Dareboard challenges and working on our finance reports. They have also been working on researching fundraisers for the next couple semesters. Marketing has been on a roll since the new logo and has been working on some team 'swag'. They are also following up with sponsors and creating professional development opportunities with some masterclass-level photoshoots, allowing Rutgers Solar Car team members a shot for extremely wonderful headshots. They have also been working on cool short-form and long-form content for the Rutgers Solar Car Team's social media platforms; notable works in progress include the fourth iteration of the Road to FSGP series. The supply chain sub-team has been working hard on getting our seniors some goodies.



BUSINESS



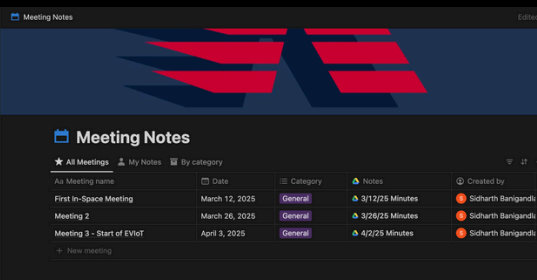
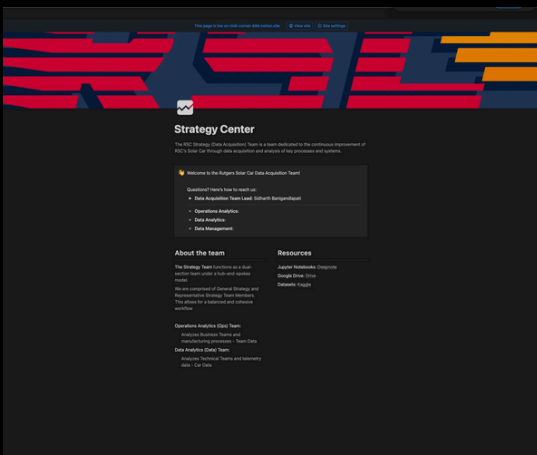
Finally, please welcome our newest addition to the Business family, Corporate Relations. Their goal is to maintain relations with alumni, companies, and help with professional development/outreach for the club. For example, networking, resume workshops, speaker events, and hopefully more!



DATA ACQUISITION

We are dedicated to preventing stagnation and are focused on improving in every way possible. To this end, we introduce our Data Acquisition Sub-Team. This newly established sub-team is tasked with applying data-driven methods to gain insights into RU Solar Car Team's processes and creations, to optimize operational efficiency and car performance.

NOTION INFO CENTER



The sub-team consists of two divisions, Operation Analytics, and Performance (Data) Analytics, with a possible third division dedicated to Data Management. Operation Analytics focuses on data relating to team operations, including manufacturing processes and team function. It plays a pivotal role in identifying inefficiencies and optimizing resource allocations, making it easier to pinpoint shortcomings in the team processes. Performance Analytics refers to analyzing metrics such as battery output and efficiency, speed, temperature, and internal components under various conditions. Data Management would focus on organizing and maintaining data, acting alongside the system administrator to maintain proper data integrity.

The Data Acquisition sub-team relies heavily on continuous monitoring during tests and races, gathering performance data by incorporating IoT sensors for real-time data collection, the analysis of which allows us to identify trends, predict future outcomes, and analyze long-term data to uncover opportunities for efficiency improvements and cost reductions. Using the data, we plan to refine the car's configuration, adjust racing strategies, and guide operational adjustments, and collaborate with other teams to implement data-driven strategies across the board. We are still in the developmental phase, learning essential skills and building infrastructure to actively seek and analyze data. If you are interested in anything mentioned, you should join!!

MECHANICAL

BRAKES

The Brakes sub-team has verified their calculations for our car's braking system. They've started manufacturing the bobbins that hold our car's rotors together. The rear rotors of our car were upgraded from 2mm to 4mm to account for the now heavier aerobody and to prevent warping from heat. Lastly, the Brakes sub-team designed a handbrake locking mechanism which would lock the parking brake with a single motion by the driver. It was 3-D printed after being designed using Solidworks and is essential for safety and compliance with FSGP regulations. Looking to the future, the Brakes sub-team is working on compiling an updated brakes assembly in Solidworks for VDR. Additionally, once all the components for the braking system have been ordered and received, the Brakes sub-team will commence assembly.

SUSPENSION

Last month, the Suspension sub-team was quite literally "on a roll." Before we had a rolling chassis, the Suspension sub-team used a temporary set-up using 3-D printed parts for nonintegral areas of the suspension system. Now that we have a rolling chassis, the Suspension sub-team can make design changes to ready the suspension system for competition. In the coming month, they'll replace the 3-D printed parts of the suspension system and fix the car's wheel alignment.



CHASSIS

Our Chassis sub-team has made great strides towards completing our car's chassis. They've ordered new tubes to be welded onto the chassis and are working on a jig plate, which will be used to hold the extension tubes in place while welding. With the tubes and jig plate prepared, the Chassis sub-team can weld the extension onto the chassis.

MECHANICAL



MECH CONTROLS

Not to be left behind, the Mech Controls sub-team got the front wheels to steer for the first time. With this development, the overall circuit between the steering wheel to rack and pinion to suspension uprights is complete. Additionally, they'll spend the next month fine-tuning the system to ensure consistent and reliable functionality.

WELCOME OUR NEW E-BOARD

KISNA NIHALANI

Kisna is our current EGC Representative and Suspension lead; he is one of the most dedicated people to ensure that the Rutgers Solar Car Team's presence in the Engineering Governing Council is productive, efficient, and, most importantly, accurate. He also ensures that the mechanical team's suspension facet is on track toward participating at FSGP this year.



WELCOME OUR NEW E-BOARD



NEW PRES. & VICE PRES.

ALINA ZAHRA & SIMRAN JAKATE

Alina is our current business lead and brakes lead; she is immensely dedicated to the club, where she helped create a united business team that has also helped create an alumni community and a consistently sent-out newsletter. Simran, our Chassis Lead, is one of the dedicated people making sure that the car's chassis is being built on time while focusing on maintaining a pleasant atmosphere. Both of them, run as a duo, plan to maintain the frontend and backend duties of the club through a harmonious leading style.

XIYING FAN

Xiyong, our current Treasurer, has learned a tremendous amount of what it means to be a treasurer of a project-based club that actively has to purchase a lot for the success of the car being completed. She has several plans to create a united front with the finance sub-team with regard to fundraising ideas and other pivotal plans.



NEW TREASURER



WELCOME OUR NEW E-BOARD

NEW SECRETARY

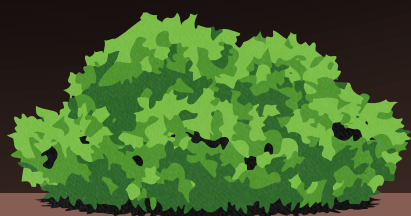


ALEX ZHANG

Alex is currently a member of the Business team and one of the editors and writers for our newsletter every month. An eager, creative, and hard-working member, he created the riddles you've seen in the Game Section for the past three newsletters (not including this issue). He also works with the logistics sub-team to plan major club events, among them our exhibition at the New York International Auto Show 2025.

ERIC BINBINON

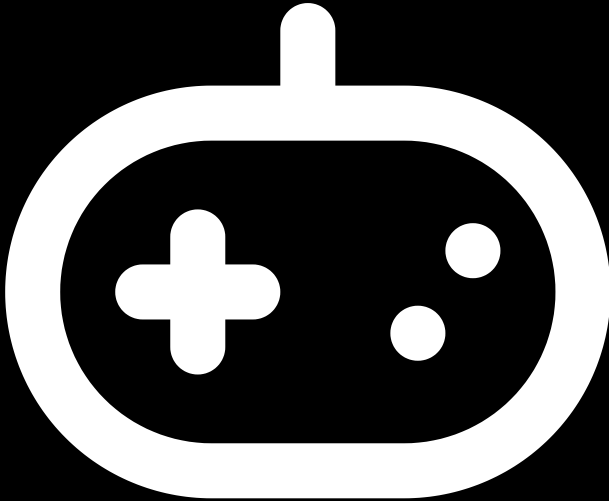
Eric is a computer science and data science double major, and is currently one of the solar leads. He consistently creates a pleasant surrounding, making sure the core values of the Rutgers Solar Car Team (Inclusivity, Collaboration, and Growth) are maintained throughout his guidance. He will also ensure that the technology we severely depend on is taken care of properly.



NEW SYSTEM ADMIN



GAMES



RIDDLE RATINGS:

WHITE - HARD

SCARLET - MEDIUM

YELLOW - EASY

GREEN - NEWBIE

WHAT IS CUTTABLE AND INTANGIBLE, YET YOU PICK UP WHEN NOTHING GETS DONE?

I'M CALLED AN ENERGY BOOSTER AND VOLTAIRE'S BEVERAGE FRIEND. DON'T TOUCH ME LATE AT NIGHT, CAUSE YOU'LL HAVE SNOOZES TO SEND. WHAT AM I?

I REPRESENT 2ND PLACE AND SOLVE COMPLEX PROBLEMS AS A BULLET. WHAT AM I?

YOU'LL FIND ME STILL, NEAR A RIVER, STOCKED WITH CASH.

WHAT IS THE ONLY METAL THAT'S LIQUID AT ROOM TEMPERATURE?



THANKS FOR READING!



**LET'S APPRECIATE
EARTH FOR A DAY!
(AND EVERYDAY)**