



# THE SPARTAN RACER

## GO GREEN! GO WHITE! GO FAST!

AUGUST 2021



## Team Updates

### A Fourth-Place FSAE Finish

The team traveled to Michigan International Speedway on July 7th for the first FSAE Michigan competition since the summer of 2019. After sleepless nights, the typical spit of poor weather, and, of course, the last-minute scramble to fix broken parts, SR-20 was loaded up and sent to Brooklyn, MI.



SR-20, lined up on MIS' finish line after an impressive performance

However, once the car arrived at the track, the work was not complete. Team members were still putting on the final aerodynamic elements and positioning them within the rules-defined aero box. Unfortunately, the team was unable to make it to technical inspection on the first day of competition, and in any other year, it'd be considered an embarrassment. However, team members only had approximately one and a half months of extremely limited shop access to finish the car, so when the car passed tech on the first try early the next morning, everyone was ecstatic and ready to roll!

Unfortunately, the rest of day two had the team struggling again. New muffler designs that passed the sound requirement at the shop in East Lansing suddenly did not work in Brooklyn. Rapid muffler iterations allowed for another late, but quick pass on the beginning of day three.



Olivia Reyes (middle), team intake and exhaust lead, does some quick engineering to pass the sound test.

Needless to say, day three was intense, with sound test, tilt test, brake test, skidpad, acceleration, and autocross. After finally passing all tech inspection stations, the team headed right for acceleration to get in a time. After the first driver, Rob Walston, had his two acceleration runs, the team transitioned to skidpad.

Skidpad is typically one of the team's lowest hanging fruits—finishing in the bottom fourth of all teams is not uncommon. This year, however, skidpad driver, Nick Coubard, broke the curse with a third place finish! This is certainly the best skidpad finish in recent history, and perhaps all of team history (although an alumni should reach out if that is not the case!).



Nick Coubard drives SR-20 into third place



@msuformularacing

msuformularacing.com





# THE SPARTAN RACER

**GO GREEN! GO WHITE! GO FAST!**

**AUGUST 2021**



After skidpad and acceleration, the afternoon solely consisted of autocross runs. Since the aerodynamics were added to the car on the first day of competition, neither of the autocross or endurance drivers had experienced the car's full capabilities. This led to slower than possible times for the team's novice driver, Dave Yonkers. Jimmy Provox, the team's experienced driver, ran into trouble on both of his runs and was sent out to redo the second one.

His third and final run was fast enough to place the team in third place for auto-cross. However, upon review, track officials rescinded the time. Their reasoning was that Provox had successfully finished the second run, despite having a slower time due to a stalled car on track. Arguing the team's way out of that one was unfortunately impossible, but that only fueled the fire for endurance on day four.



*Dave Yonkers, auto-cross and endurance driver #1, sets the team's fastest lap for endurance placement*

Endurance day is often the most stressful day of competition. For those who are unfamiliar, rarely half of the cars that start the race even make it to the finish. With two endurance failures in 2019, the team was on edge heading into the fourth day of competition. A middle-of-the-pack placement allowed the team to prep the car in the paddock while the first handful of teams were out on track.



*Jimmy Provox putting down fast laps on the MIS back straight*

Dave Yonkers piloted the car for the first eleven laps before Jimmy Provox hopped in for the second stint. The car had never completed a full mock-endurance before the real deal, so the driver change was tense. Oil and fuel were both running hot as team leaders had suspected they would, but the driver display relayed this information to Provox as he left for his stint.

Not only did Provox actively manage the car's temperatures, but he also put down some seriously fast times! Even without using low gears, Provox managed to bring the car across the finish line in 14th place—a huge accomplishment for the team!

After both the virtual knowledge event scores and dynamic event scores were added up, the team came home with fourth place overall!



*A team full of happy engineers!*



@msuformularacing

msuformularacing.com



# THE SPARTAN RACER

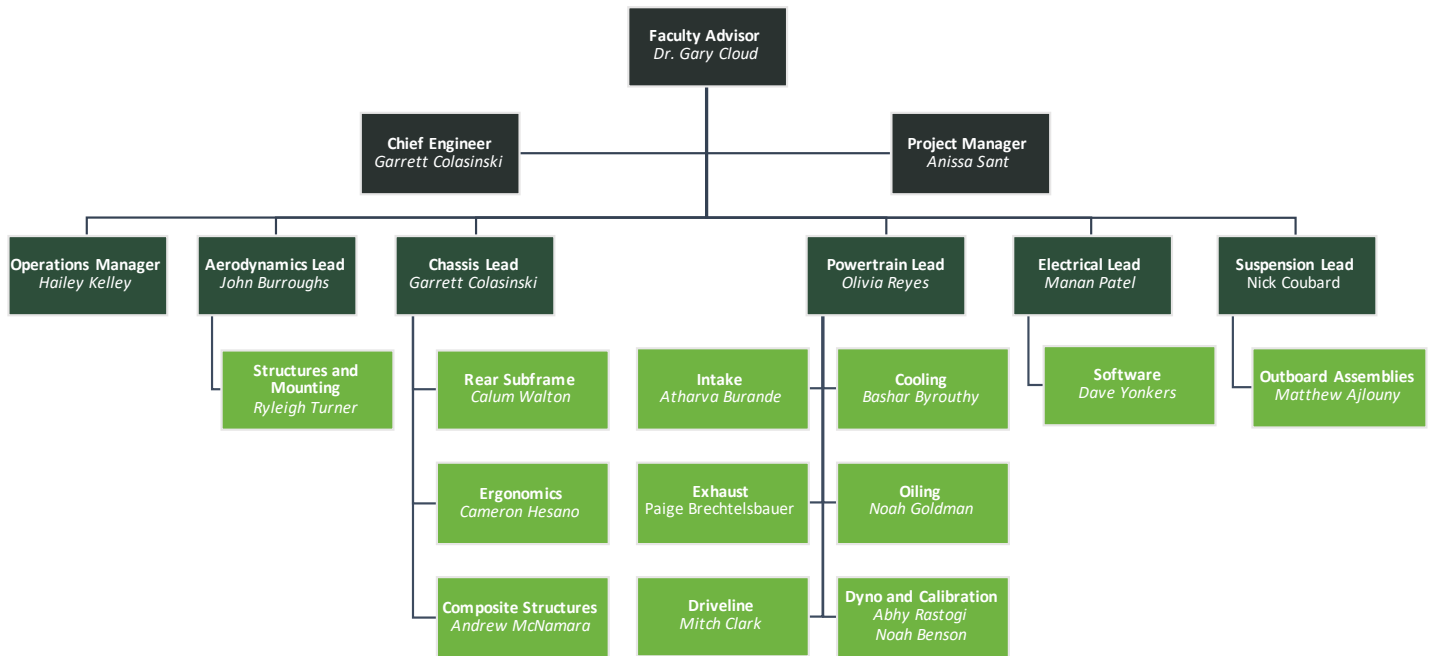
GO GREEN! GO WHITE! GO FAST!



AUGUST 2021

## New Team Structure

After FSAE Michigan each year, the team holds elections for the upcoming school year and vehicle build. This year is no different, other than happening so late as a result of a late competition season. The new team structure can be seen in the organization chart below.



## A Note From Dave Yonkers, 2020-2021 Project Manager

I wouldn't say that it's been ideal to lead the team through a worldwide pandemic, but I don't think that I'd trade the overwhelming joy and satisfaction I felt when the car finished endurance for anything in the world, either. To the leaders who were placed into roles of uncertainty the last year, and to the new members who stuck out the virtual setting without knowing what was in store for the future: thank you. Even though your experience may not have been as enjoyable as a typical year, it certainly will be memorable for all of us.

Go green, go white, and go fast.

Dave







# THE SPARTAN RACER

## GO GREEN! GO WHITE! GO FAST!



**AUGUST 2021**

## Featured Alumni

**Name:** Rob Erfurt

**Hometown:** Sterling Heights, MI

**Degree:** B.S. Mechanical Engineering (1999)

**Years on the team:** 1997-1999

**Roles:** Project Manager (1999)

Chief Engineer (1998)

### How did you contribute to the advancement of MSU Formula Racing?

From a technical perspective, I would have to take a good deep dive review of the current car to answer this one – I'm pretty sure the Honda 600 power-plant is still there, which was introduced in '98 on car 101, and perhaps I could spot a few other things that have stuck around as best practice through the years. Organizationally, I can say that did my best to pass on continued advancements in project management, sponsorship acquisition and the hands-on, leadership by example and the relentless work ethic that I continue to see from team leaders year over year. Post graduation, I was one of the founding members of The Gary L. Cloud MSU Formula Racing Team Endowment. A group of team alumni got together to create this in the early 2000s to make sure the team always will have some base level of funding.

### What is your favorite memory from the team?

The common thread on all of my memories is the friendships and camaraderie that come along with being a deeply involved part of this team. The lifelong friendships that came from my years on the team are invaluable. All said, those same guys did find it hilarious to leave me trapped in expanding foam while we were molding the seat for Car 102, turning all the shop lights off as they headed out to get some cold beverages...at least they brought one back for me.



### How did your experience as a member of MSU Formula Racing help to shape your future?

Looking back, being a part of MSU FSAE provided fantastic experience and a great preview of the professional real world to come. Beyond the technical and engineering challenges, and especially in a leadership position, you're given exposure to project management, cost/budget management, material procurement, people management dynamics, recruiting, training, and securing funding all on an aggressive schedule with a competition deadline that cannot be missed.

Assembling and motivating a team with the right processes, metrics and above all, a highly dedicated and engaged cultural dynamic where the team works together as well as the well-oiled machine that it builds is the ultimate goal - this is something I still work toward every day with the team I lead.



@msuformularacing

msuformularacing.com





# THE SPARTAN RACER

GO GREEN! GO WHITE! GO FAST!

AUGUST 2021



## Featured Sponsors



**Name:** Medline Venom Steel  
**Location:** Northfield, Illinois

Three years ago during the team's manufacturing period, one of our aerodynamics team members started to have mild skin irritation after mixing resin and performing carbon fiber wet-layups while wearing standard nitrile safety gloves. Tired of the irritation, he went to our local Home Depot where he stumbled across the premium, 2-layer, heavy duty 6mil nitrile Venom Steel gloves. Luckily, they solved the problem!

We reached out to Venom Steel with this story, and they were kind enough to send us a few cases of gloves for that year's manufacturing period! After building two vehicles with the gloves they supplied, the team's stash has unfortunately ran dry. We reached out again, and Venom Steel mentioned that they'd be willing to continue their partnership into this year. Thank you, Venom Steel!



**Name:** General Motors  
**Location:** Detroit, Michigan

General Motors has been pushing the limits of what is possible in transportation and technology for the past 100 years. GM is hard at work preparing for an all-electric future and with the unveiling of Factory ZERO, an assembly center manufacturing and producing EVs right in the heart of Detroit, they are well on their way to this goal. While this mission is difficult, GM is dedicated to a clean future, and with plenty of team alumni working for GM, it is safe to say MSU FSAE believes in GM's mission as well.

GM has been a platinum-level sponsor of the MSU Formula Racing Team for many years, and without their generous financial contributions, the team would not be at the level it is today. We thank General Motors for their continued support.



@msuformularacing

msuformularacing.com





# THE SPARTAN RACER

GO GREEN! GO WHITE! GO FAST!



AUGUST 2021

# THANK YOU!

PRATT  MILLER



FCA

Ansys



ALTAIR



TOYOTA

mga



BOSCH



HIGH CALIBER  
- KARTING AND ENTERTAINMENT -

SIEMENS

NISSAN



TRELLEBORG



'TORAY'



Pratt & Whitney  
A United Technologies Company

A>>>IOM  
MATERIALS



OXTS

iMBRANDED



EVONIK  
POWER TO CREATE



TEXAS  
INSTRUMENTS



iau

Woolf

RICARDO

brose  
Excellence in Mechatronics

brembo

AIRTECH

CAMERON  
TOOL CORPORATION



Haviland  
ENTERPRISES, INC.

3M



pico  
Technology



HEATSHIELD  
PRODUCTS

TeXtreme



Power. Precision. Performance.

Precision  
rototype

LINK

3Dconnexion

Alpha  
Metal Finishing Company

NSK

GT  Gamma  
Technologies

FT FRAMING TECH

ToddWenzel  
AUTOMOTIVE



Marketing Masters

THE FIRM

iRacing



Wesch  
CLEANERS

TW  
METALS

MechaniCalc

Flow Ezy  
Filters



Neff Engineering



Down & Miller Racing Solutions  
BMCRS  
Professional Race Hoop & Fittings



MSU CIVIL AND ENVIRONMENTAL ENGINEERING

JEFF SCHMITZ

JOE COLUCCI

MSU ELECTRICAL AND COMPUTER ENGINEERING



@msuformularacing

msuformularacing.com