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DR. D. Y. PAUL
INSTITUTE OF

CWU

FOX

OUR MISSION



Michigan Baja Racing's mission is to develop the engineering skillset and experience of its members through hands-on projects and opportunities. The team design builds and tests an off-road vehicle capable of withstanding severe punishment in all three North American Baja SAE events. Team members develop real world skills through applying classroom theories to design challenges, building relationships with professional organizations, and managing a complex engineering project.

VEHICLE HIGHLIGHTS: MBR-31

Body & Frame

- Custom carbon fiber panels
- 4130 chromoly steel tube roll cage, welded in house
- Custom light carbon fiber seat with molded drive-changeable inserts

Brakes

- Custom front and rear calipers
- Custom master cylinder
- Custom brake pads and rotors
- Adjustable bias

Drivetrain

- Custom chain-driven 4wd system
- Custom gearbox
- Custom continuously variable transmission with separate weight configuration for towing
- Passive air cooling

Suspension

- Steel control arms, welded in house
- Carbon fiber tie rods with bonded aluminum slugs
- Rear drive shafts axially stressed: act as suspension member



DESIGN



Each year, team members complete an iterative design cycle including modeling, manufacturing, testing, and validation. Students use industry standard computer aided engineering software to both design and analyze components and subassemblies. The car is divided into 10 subsystems, each with its own student leader responsible for the success of that aspect of the vehicle. Leaders gain experience setting and meeting deadlines, achieving ambitious goals, and collaborating with peers. Each design is vetted during student-led reviews before manufacturing begins.

MANUFACTURING



Students gain hands-on experience machining and assembling a variety of vehicle components. They operate manual and CNC mills and lathes, perform composite layups, and weld all components. Team members learn firsthand the benefits of design for manufacturability and serviceability. Processes not available in our machine shop are performed by our incredible team of sponsors.

TESTING



Finite element models are compared to data collected on and off the vehicle to validate analysis and designs. Students utilize a robust and customizable data acquisition system including strain gauges, hall effect sensors, linear potentiometers, and other creative solutions and fixtures. This testing and validation is a key component to the team's success and scrutinized by a panel of judges during design presentations at each completion.

COMPETITIONS



Day 1: Welcome Day
Briggs & Stratton Engine
Inspection, Sales Presentation

Day 2: Static Day
Technical Inspection, Brake
Check, Design Review with
Industry Professionals, Cost
Audit

Day 3: Dynamic Day
Acceleration, Maneuverability,
Suspension & Traction or Rock
Crawl, Hill Climb or Sled Pull

Day 4: Endurance Day
A grueling four hour wheel-to-
wheel race with up to 100
vehicles

The team competes in all three North American Baja SAE competitions each year. Events are located in the Western, Central, and Eastern regions with venues rotating each year. Approximately 100 universities from around the world compete in each 4-day competition.

1st Place

Overall

Due to COVID-19, competitions were held in a virtual format with design, sales and cost events

RESULTS

BAJA SAE

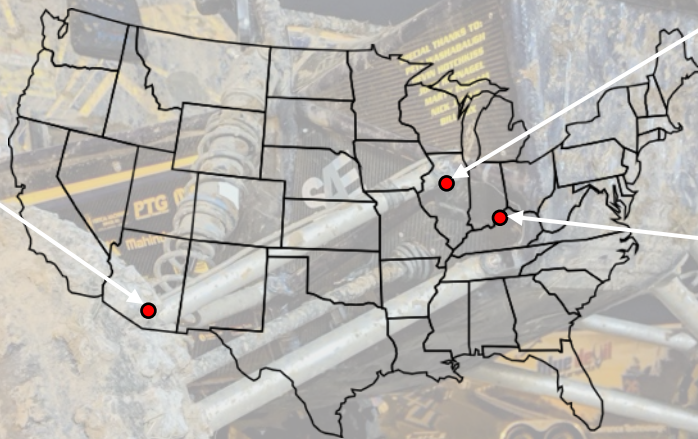
Arizona

1st Overall

3rd Design

1st Sales

4th Cost



BAJA SAE

Illinois

1st Overall

4th Design

2nd Sales

5th Cost

BAJA SAE

Louisville

1st Overall

3rd Design

1st Sales

4th Cost

Mike Schmidt Memorial Iron Team Award

Acknowledging the team with the highest cumulative score from all three North American competitions.

2015

2016

2017

2018

2019

1st

1st

1st

3rd

1st

SPONSORSHIP BENEFITS



Interaction with the Engineers and Leaders of Tomorrow

Michigan Baja Racing challenges our members to go beyond the classroom by thinking creatively and developing time management, communication, and leadership skills. This gives Michigan Baja Racing members a valuable experience that prepares them for work at industry-leading companies. Supporting Michigan Baja Racing provides sponsors with direct access to skilled and qualified team members as well as the unique opportunity to foster the development of tomorrow's engineers.

Sponsor Publicity

Michigan Baja Racing proudly recognizes our sponsors with a logo on our car as well as a logo and link on our web page. Please see the table on the next page for further details.

Team Appreciation

All sponsors receive a team photo and video recap of the race season as a thank you for their support.

Tax Deductions

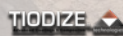
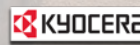
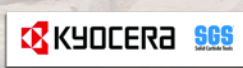
Michigan Baja Racing is part of a 501(c)(3) non-profit organization; therefore, all monetary and in-kind donations are tax deductible. Donation receipts are available.

SPONSORSHIP LEVELS

	Diamond (\$10000+)	Platinum (\$9999-\$5000)	Gold (\$4999-\$2500)	Silver (\$2499-\$1000)	Bronze (\$999-\$250)
Logo on Vehicle and Website	<i>XL</i>	<i>XL</i>	<i>L</i>	<i>M</i>	<i>S</i>
Invitation to Unveiling Ceremony	✓	✓	✓	✓	✓
Thank You Package (Team Photo, Season Recap Video)	✓	✓	✓	✓	✓
Team Member Resume Binder	✓	✓			
Company Banner at Competition	✓				
Detailed Company Description on Website	✓				

Sponsorship levels are based on monetary amount donated or estimated monetary value of donated items

THANK YOU FOR YOUR SUPPORT!



Interested in learning more about the team? Contact us at bajaracing@umich.edu, or visit our website: michiganbajaracing.com