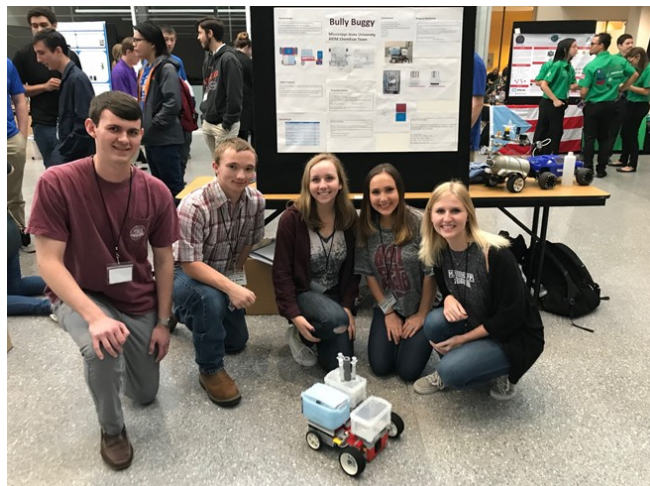




## Mississippi State ChemE Car Team Prepares for Spring Competition

Richard Hamilton



*Mississippi State Chem-E-Car Team at LSU Southern Regional Conference*

*Pictured Left to Right: Will Krizak, Bradley Winters, Kathryn Wojtanik, Hayden Myers, Ronni Wolfe*

One of the many organizations available to Chemical Engineering students is the ChemE Car Team. The team builds a small, self-propelled car that drives down a short track and is started and stopped by a chemical reaction. Once the car is built, they bring it to competition at the AIChE Regional conference. Last year was the team's first year competing since its revival in 2015. This year, they are looking forward to competing again, and this time Mississippi State is hosting the competition.

The ChemE Car team is split into four groups: chassis, battery, circuitry, and iodine clock reaction. Kat Wojtanik serves as the ChemE Car team captain and iodine clock team leader, Bradley Winters leads the battery team, Vivian Mayora and Blake Beach lead

the chassis team, and Alex Rogers leads the circuitry team. The team has greatly increased recruitment, and the number of members on the team has jumped from last year. The team also has a new advisor, Dr. Julie Jessop, Professor, Associate Director, and Hunter Henry Chair. With a mix of old and new leaders, the team is looking forward to getting the car ready for competition this spring.

At last year's competition, held at Louisiana State University, the MSU team's car, the Bully Buggy, unfortunately did not start; however, they have evaluated their problems and hope to have a successful run this year. Because of the tarped floors at the competition, the team is planning on changing the placement of the battery, thus increasing the distance from the bottom of the car and the floor. The Legos used in the car's design increased mobility, but added a lot of weight, and the battery did not output enough voltage. The ChemE Car team has placed a lot of energy into fixing the problems from last year and refining the car. Explained ChemE Car leader, Kathryn Wojtanik, "This year is all about improvement."



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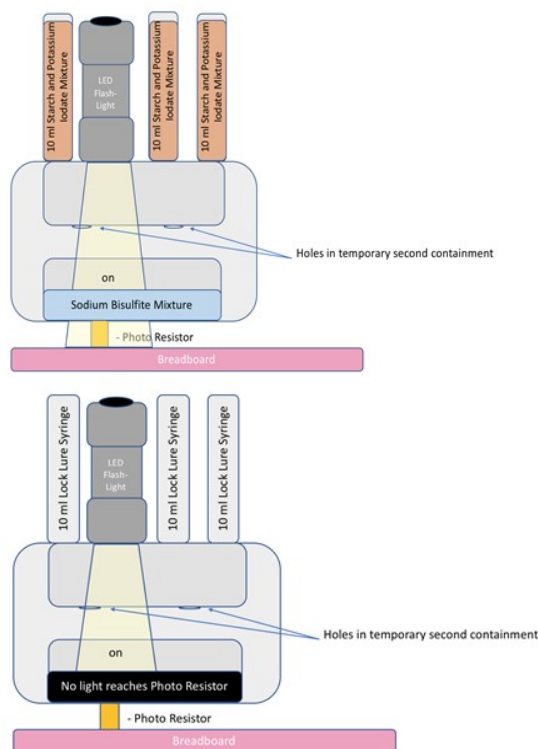
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*The Bully Buggy: Car Used in Spring 2018 Competition*

The design process of the ChemE Car is complex. The car can be made from any material; however, incompatibility with 3D printed materials led the team to work with Legos. Because the car needs to be started chemically, the team divided the battery into a hot and cold side, and the voltage is produced from the temperature differential. The car is powered by an electric current flowing from the battery to the motor when it hits the photoresistors. The team uses three syringes to add starch and potassium iodate mixture to a sodium bisulfite mixture to produce a black

precipitate, thus closing the circuit and stopping the motor.



*Visual Depiction of the Photo Resistor System*

It is an exciting year for the ChemE Car team as they prepare for the AICHE Regional conference, which Mississippi State is hosting. The team is equipped with great leaders, and they have worked hard to improve the design of the car. The ChemE Car team is excited and well prepared for competition ahead.