

UC San Diego



Chem E Car

2025-2026

Sponsorship Package

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Dear Chem E Car Supporter,

The Chem E Car at UC San Diego cordially invites you to be a part of our vibrant and growing community. We are always grateful for the relationships that we have with our industry partners and for the continued support that we receive from them.

Chem E Car at UC San Diego is a chapter of the American Institute of Chemical Engineers Chem E Car project, a nationally recognized organization with both professional as well as student chapters. At Chem E Car at UC San Diego, we strive to uphold and promote technical skills and educational experience through the Chem E Car competition held at the annual regional AIChE conference. The conference also houses many seminars, demonstrations and info sessions held by companies and students to expand our knowledge and encourage interests in new skills.

With the support of your sponsorship, you and your organization will have a tremendous opportunity to promote your company through Chem E Car at UC San Diego. Above all, your sponsorship will promote our mission to create enthusiasm for chemical driven competition.

There are many ways to get involved with Chem E Car, and we are excited to work with you to create the ideal outcome. Relevant details are included in the pages following; however, we welcome additional ideas and would be happy to work with you to create a package that best meets your needs.

Please take the time to review the enclosed information concerning Chem E Car at UC San Diego. Please do not hesitate to contact us with any questions at chemecar.ucsd@gmail.com.

Sincerely,
The Chem E Car Team,
Chem E Car Project, UC San Diego 2026.

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Mission Statement

Chem E Car Project is a non-profit organization at University of California, San Diego whose main objective is to develop a miniature car that can compete at the annual Chem E Car competition. The goal of this organization is to connect classroom knowledge and innovative thinking to the real world and enrich the educational journey of Chemical Engineering among other disciplines, at UCSD. This organization gives its members a chance to ideate, initiate and innovate vehicle ideas that use chemical energy as propulsion and stopping mechanisms. Additionally, this organization implements real world problem solving, cultivates skills involved with working in teams, meeting deadlines and taking responsibility while being creative. Furthermore, by holding events that facilitate team bonding, this organization promotes student-student relations as well as student-faculty relations within the university. Chem E Car thrives to keep a creative outlet for students while making problem-solving and troubleshooting a fun experience.

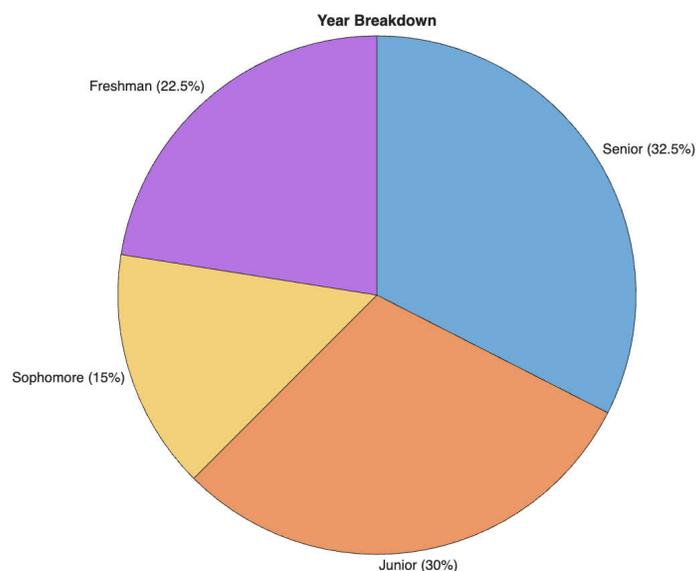
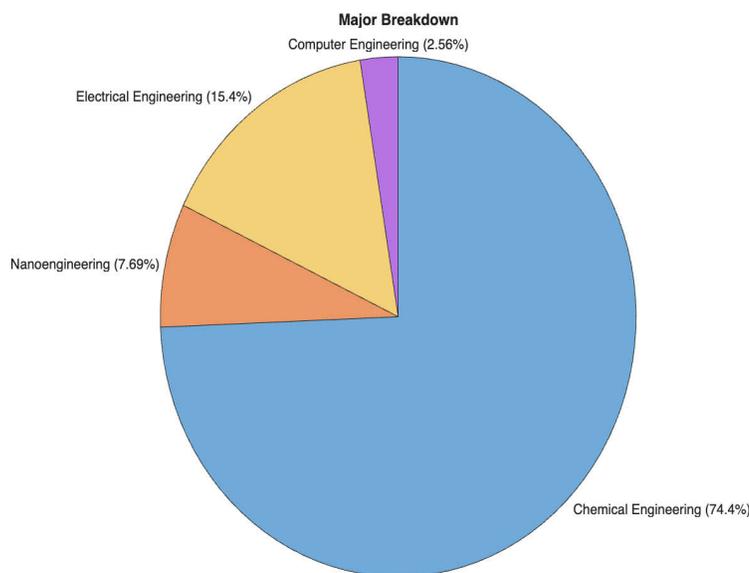
Our Members

Our small student club has members that are mostly from the Chemical Engineering discipline, but we are open to everyone that is interested. We value all input and enthusiasm from our members.

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Presently, we have over 40 active members. The breakdown for '25-'26 is as follows:



Chem E Car Competition

Chem E Car Competition is an annual competition held at various participating schools sponsored by the American Institute of Chemical Engineers. The premise of this competition requires students to design and develop a miniature shoe-box sized car that can run solely on chemically produced energy. The goal is to develop a car that can travel over a specified distance and stop as close to the finish line as possible. The competition reaches out to the public and industry leaders to increase the awareness of the importance of the Chemical Engineering discipline.

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This Year's Projects

This academic year, the Chem E Car team plans to take part in two competitions, the AIChE Western Regional conference in Santa Barbara, California and the AIChE Annual Student Conference in Boston, Massachusetts. Our two cars utilize unique propulsion-stopping mechanism duos. Our Platybus car uses lead-acid battery as the propulsion and iodine clock reaction as the stopping mechanism. The second research car, Moster Truck, will utilize a zinc-alkaline battery propulsion mechanism with Monster color changing stopping mechanism. Refer to the detailed descriptions below.

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We generate voltage through an electrochemical reaction between lead and lead oxide in the solution of sulfuric acid. In the reaction, lead oxide is acted as the anode and lead is acted as the cathode.

Lead-Acid Battery
Propulsion
Mechanism



The formation of iodine is slowed down by the presence of sodium thiosulfate in solution. Eventually the solution turns a dark iodine color that signals via a photoresistor to the Arduino to stop the car.

Spinach and Bleach
Color Changing
Reaction



Energy is produced via the electrochemical reaction between zinc foil and manganese oxide, with zinc acting as the anode and manganese oxide as the cathode.

Zinc-Alkaline Battery
Propulsion Mechanism



Color change is mediated by the permanganate ion. Once it gets consumed by glucose (provided by Monster drink), the color changes from purple to clear/yellow tint. Color change is detected by photoresistor to Arduino and stop the car.

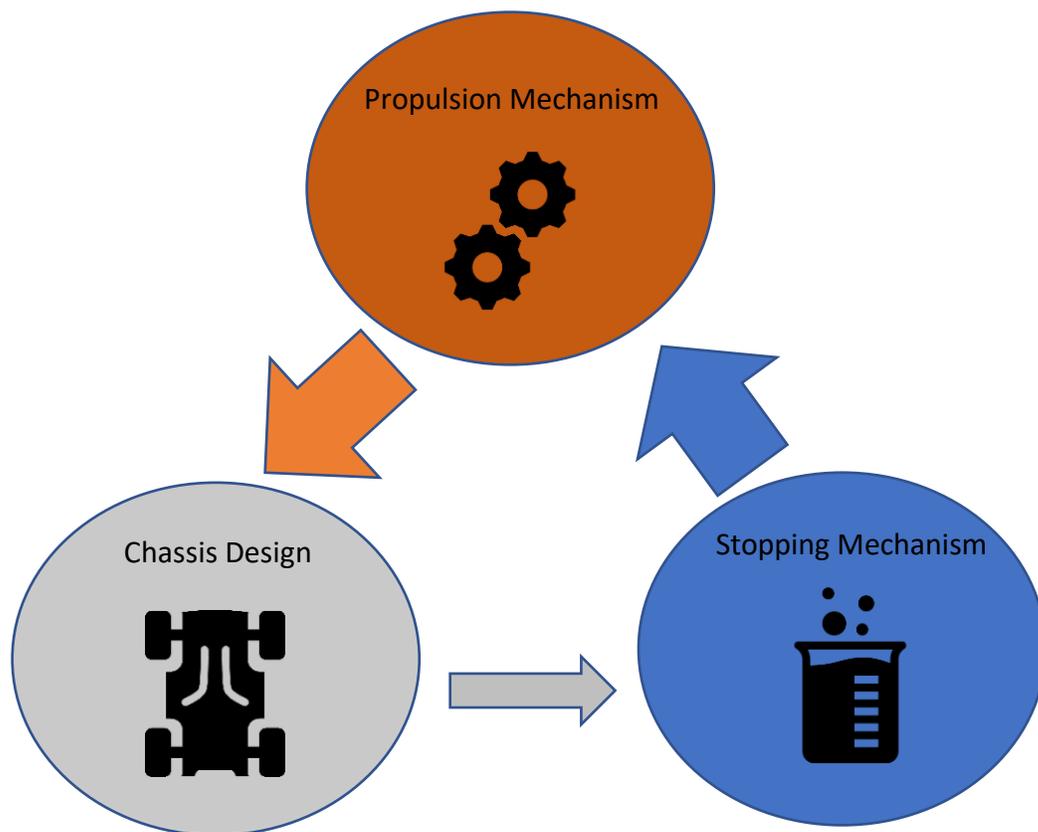
Monster Color
Changing Stopping
Mechanism



A part of the team will work on a new idea for propulsion and stopping pitched by new members for a fresh perspective to enter competition the following year. We plan to divide our teams according to interests and have a few current members mentor the new participants while working alongside them to create a new car.

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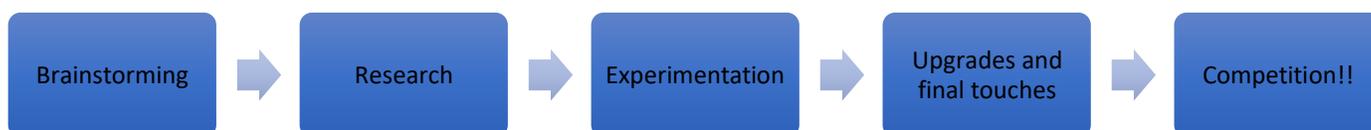
Project Timeline

The teams go through four principal stages during the process of creating a new car. First is the brainstorming stage, where the members pitch new ideas and research the viability of the project. At this point, every idea is accepted and researched lightly to give others an insight on how the mechanisms might work and if they follow the competition rules.

Then, the members are divided into teams for different stopping and propulsion mechanisms separately based on their interests and skills.

Now the research stage has begun. The teams will research, in depth, the mechanisms to make the car work, and the materials and equipment they will need to create the car.

Next comes the experimentation. The members will obtain the materials they need, and experiment with the mechanism to create a new car while adding their own upgrades and testing it frequently for the best outcome. Once a car is working, the design is perfected to make the car look its best. Next step is the Chem E car competition!



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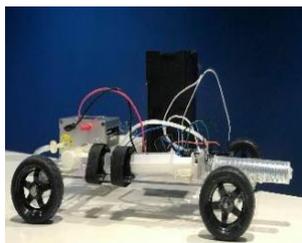
Past Projects

<p>2011 – 2012 Triton Car</p>  <p>Propulsion Mechanism: Zinc-Carbon Battery Stopping Mechanism: Iodine lock</p> <p>6th place in Regionals "Most Creative Drive System" Award</p>	<p>2012 – 2013 The Lorax</p>  <p>Propulsion Mechanism: Thermoelectricity Stopping Mechanism: Foaming Reaction</p> <p>8th place in Regionals 3th place in poster competition</p>	<p>2013 – 2014 Tritonium</p>  <p>Propulsion Mechanism: PEM Fuel Cell Stopping Mechanism: Pressure-Syringe system</p> <p>6th place in Regionals</p>
<p>2014 – 2015 Pink Panther</p>  <p>Propulsion Mechanism: Zinc Air Battery Stopping Mechanism: Photo Sensor System</p> <p>4th place in Regionals</p>	<p>2014 – 2015 The Great Gassby</p>  <p>Mechanism: Generation of carbon dioxide builds up pressure which drives the system.</p> <p>3rd place in Regionals 29th place in Nationals</p>	
<p>2015 – 2016 BattMobile</p>  <p>Propulsion Mechanism: Magnesium Battery Stopping Mechanism: Iodine Clock Reaction</p> <p>11th place in Regionals</p>	<p>2015 – 2016 The Car of Ice and Fire</p>  <p>Propulsion Mechanism: Pair of exothermic and endothermic reactions Stopping Mechanism: Iodine Clock Reaction</p> <p>12th place in Regionals</p>	

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2018-2019
Spring Roller



Propulsion Mechanism:
Hydrogen Fuel Cell
Stopping Mechanism:
Luminol Clock

6th place in
Regionals

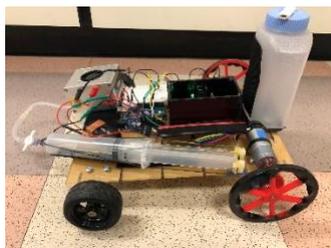
2018-2019
Triple A



Propulsion Mechanism:
Aluminum Air Battery
Stopping Mechanism:

12th place at
the regionals

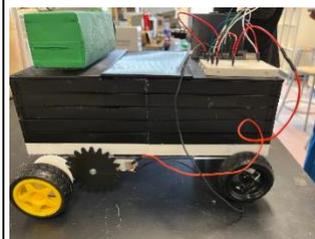
2023-2024
Popeye



Propulsion Mechanism:
Hydrogen Fuel Cell
Stopping Mechanism:
Luminol Clock

2nd place in
Regionals

2023-2024
A.A.R.O.N



Propulsion Mechanism:
Aluminum Air Battery
Stopping Mechanism:
Luminol Clock

11th place at
the regionals

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2024-2025
Wanda



Propulsion Mechanism:
Hydrogen Fuel Cell

6th place in
Regional

2024-2025
Cosmo



Propulsion Mechanism:
Aluminum Air Battery
Stopping Mechanism:
Iodine Clock

7th place in
Regional

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Sponsorship Levels

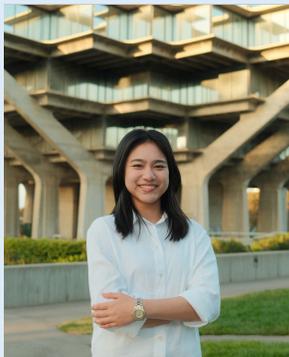
	Bronze	Silver	Gold
	\$250-550	\$550-1000	\$1000 and above
Events and Benefits			
Acknowledgement and logo on all promotional materials	★	★	★
Logo in presentations and videos	★	★	★
Logo on website during the academic year	★	★	★
Logo on team t-shirt worn to competition		★	★
Logo decal on the competition car			★
General Meeting/ brainstorming session	★	★	★
Workshop w/ members		★	★
Professional development events			★

Chem E Car is open to working with you and accommodate any events as required

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Executive Board 2025-2026

	<p>Preston Shin Co-President prshin@ucsd.edu</p>		<p>Fourth Manaanuntakul Co-President nmaanantakul@ucsd.edu</p>
	<p>Vinh Chau Finance Officer quchau@ucsd.edu</p>		<p>Rahul Iyengar Team Manager jayars@ucsd.edu</p>

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	<p>Geannie Yang Events Coordinator zhy043@ucsd.edu</p>		<p>Sophie Kang Social Media/Webmaster sok049@ucsd.edu</p>
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*For Additional information regarding sponsorship or Chem E Car Project, please contact:
chemecar.ucsd@gmail.com, or one of the members of the current board.*

Visit Our Website for More Information

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Team Lead 2025-2026

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	<p>Austin Tran Monster Propulsion Lead aqt005@ucsd.edu</p>		<p>Reina Salman Monster Stopping Lead rjsalman@ucsd.edu</p>

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