Community/Industry Impact and Value

• Community events such as Future SWE and GoGirls
• Cleaner Power Source
• Battery is cleaner and less hazardous than petrochemicals

Community/Industry Engagement

• Wayne State University College of Engineering
• Chemical Engineering Department
• JST Corporation

Team Composition

• Team: Alex Bokatzian, Stephanie Cox, Zach Slavov, Bilal Hussein, Chris Vera-Burgos, Alex Gagliardi, Monty Diaz, Bill Cheedie, Matt Melucci, Kara Cox
• Advisors: Dr. Eranda Nikola, Dr. Charles Manke, Dr. Howard Matthews, Prof. James Lenn, Prof. Kristina Lenn

The Technology and Innovation

• Chem-E-Car started as a way to get chemical engineering students involved in an extra-curricular activity in which they could apply their coursework in a lab type setting
  • The team builds a model sized car completely run and stopped by a chemical reaction
    • Power Source: Zinc-Air Battery
    • Stopping mechanism: Iodine Clock Reaction
  • Finished Car competes in the Regional American Institute of Chemical Engineers (AIChE) Conference’s Chem-E-Car Competition
• The innovation is the car itself
  • The battery is also innovative
    • Long life time, powerful, somewhat rechargeable, and built with inexpensive materials
      • Longevity is better than a commercial alkaline battery

Learning Experiences

• Application of engineering knowledge, practices and techniques
• How to work as a team in the lab
• Importance of calibration testing
• Aspects of Mechanical Engineering
• Aspects of Electrical Engineering
• Acid and base chemistry
• Chemical catalysts
• Reaction kinetics

Further Research and Development

• Stronger and/or more efficient battery
• Catalysts
• Zinc-Air Fuel Cell