

# Electrochemistry Optimization

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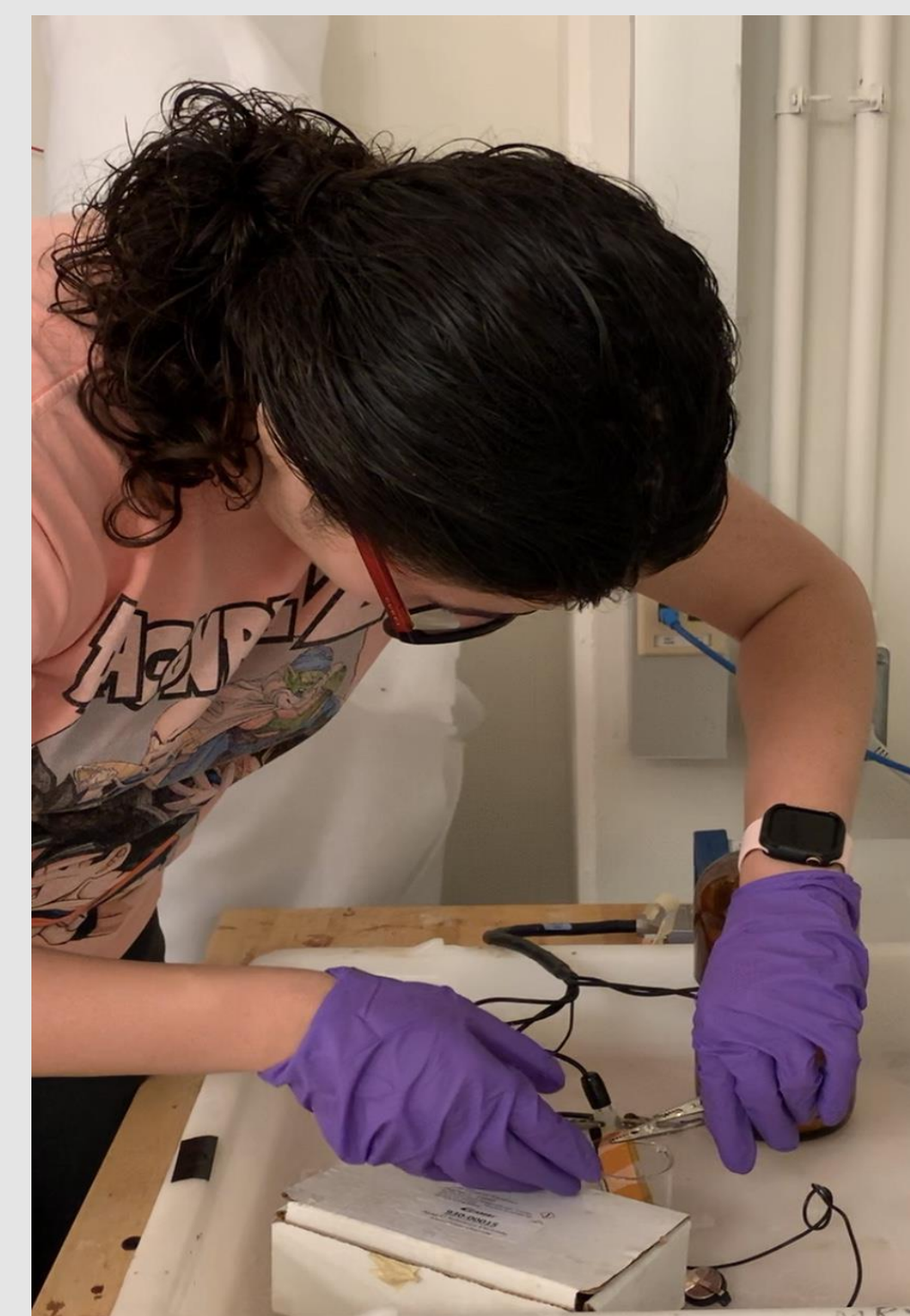
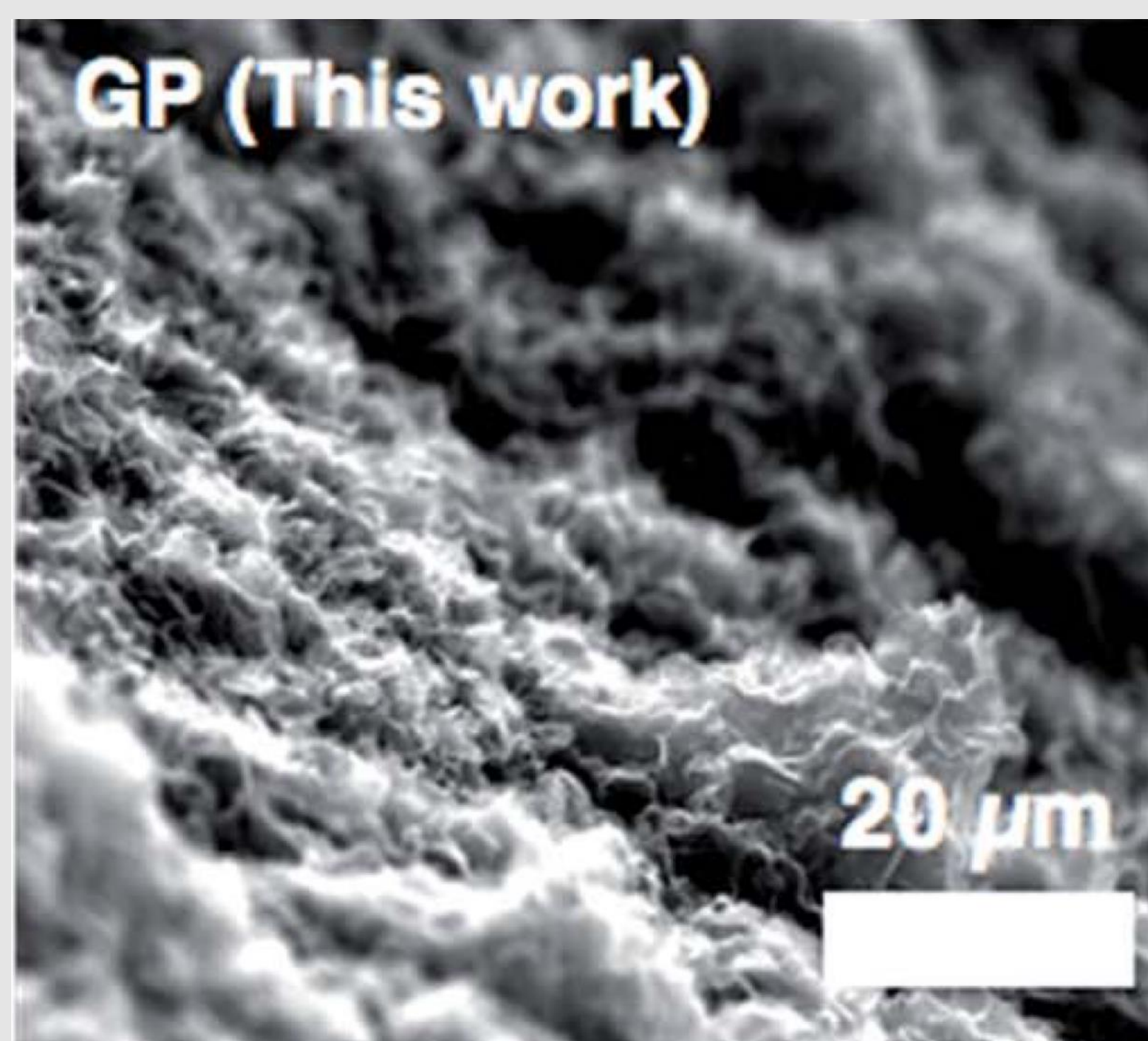
## Summer Research

Goal: To standardize and optimize graphene for use in Na chemistry batteries.



Currently most devices use Li batteries to store energy. These batteries are expensive and there is no established system for recycling large Li batteries.

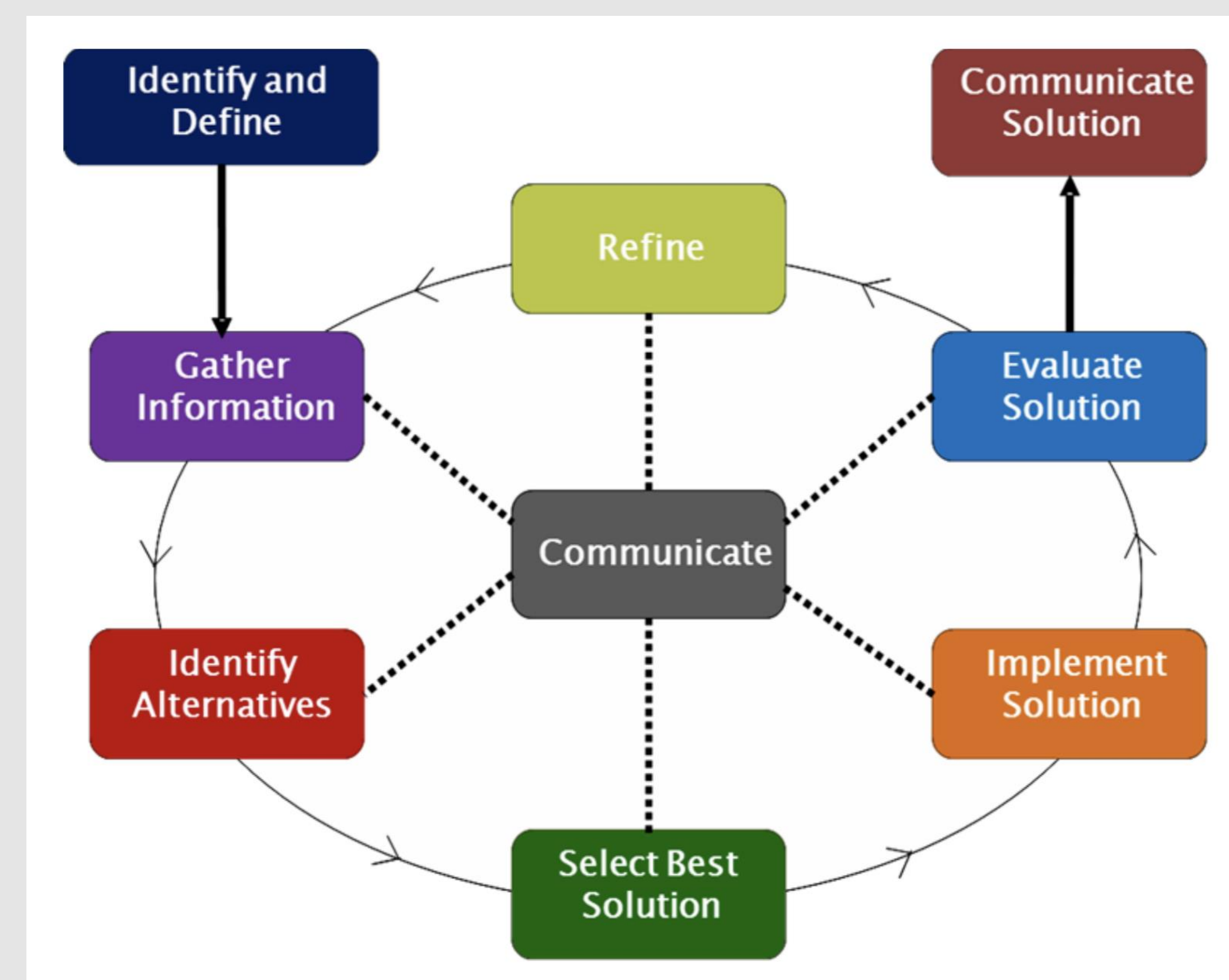
In the Nanoworld lab graphene is being tested and optimized for use in Na chemistry batteries.



Above is graphene produced in Nanoworld and EDLC testing being done during RET.

## Classroom Implementation

To connect this research to students I've created an Electrochemistry Unit that includes 4 activities and culminates in a challenge-based learning project.

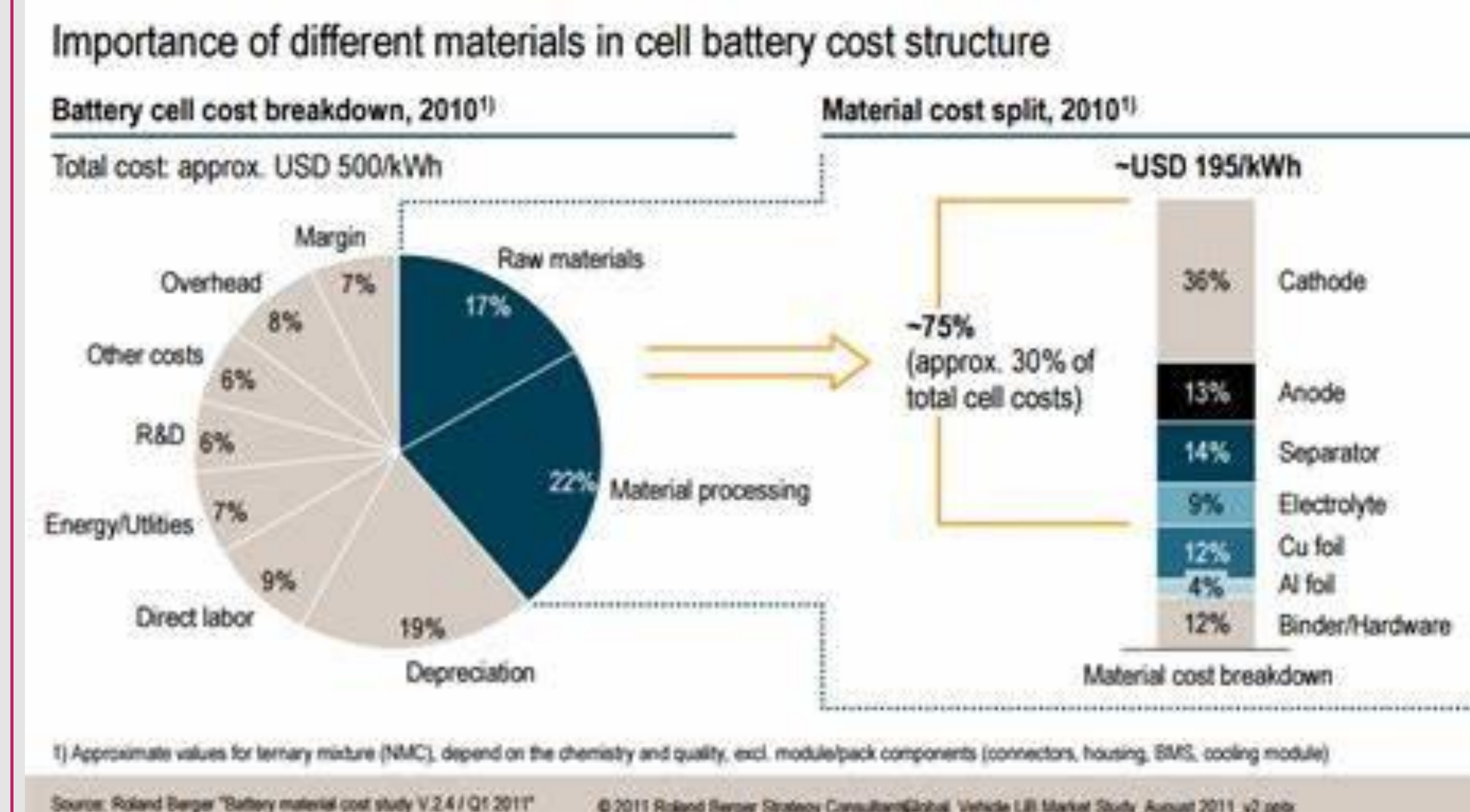


Challenge Based Learning Opportunity:  
Students will have the chance to optimize their designs for several different batteries and battery components.



## Relevance - Optimization

What is optimization and what types of objects or processes do engineers optimize?



How can we use science and technology to optimize the changing energy needs of today's world?

