



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> Syed Musab Kazmi	<b>Project Number</b> <b>J0914</b>
<b>Project Title</b> <b>The Road to the Artificial Pancreas</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> In this project, I want to make an Artificial Pancreas that can be used for any patient with Type 1 Diabetes. Instead of using actual insulin and glucose I will test the artificial pancreas with vinegar which represents high glucose levels and baking soda which represents insulin.</p> <p><b>Results</b> The three amounts of vinegar used in this project are 200, 230, and 250 ml. Average amount of time it took to neutralize all of them after 10 trials each was 4:31, 5:12, 5:39 minutes respectively and always started the neutralization instantly. None of the three caused any problems the artificial pancreas</p> <p><b>Conclusions/Discussion</b> This confirms that this type of an artificial pancreas can work on many people as long as there is an undesired amount of glucose (vinegar). This also means that the device will be quick and will give the right amount of insulin or baking soda in a short amount of time whenever is needed. All the device needs is an undesired amount of glucose to turn on.</p>	
<b>Summary Statement</b> I created an artificial pancreas that can be used for any patient with type 1 Diabetes	
<b>Help Received</b> My adviser Mrs. Alkhawaja helped on deciding my project, my family got the materials for the project and helped on the research of the project	