



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Christopher S. Park	Project Number S0413
Project Title Evolutionary Electrophoresis	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this project is to find and compare evolutionary differences among different animals based on their proteins.</p> <p>Methods/Materials In this project, samples of three different groups of animals, fish, reptiles, and birds, were run through protein electrophoresis to be analyzed and compared to see if there is any type of evolutionary link or relationship between the animals in attempts to "bridge the gap" between aquatic, amphibian, and terrestrial animals. The gels taken from the electrophoresis are also run through a process known as Western Blotting, which is used to identify specific proteins; in this experiment the proteins were the myosin light chains, which is found within the muscles of the animals from which the samples were taken from.</p> <p>Results The proteins on the gels, that were analyzed and compared, were used to create tables that arranged the different animals in, decreasing order, based on the number of proteins they had in common with each other; first within their own categories of fish, reptiles, and birds, then all together.</p> <p>Conclusions/Discussion After analyzing the common protein tables, the conclusion was that the fish were more closely related to the amphibious reptiles than they were to the birds, and that the birds were more closely related to the reptiles than they were to the fish.</p>	
Summary Statement By using protein electrophoresis, genetic similarities that remained throughout evolution were compared among different animals of different species.	
Help Received Used lab equipment at Ribet Academy's Biology lab under the supervision of Mr. Shirajian	