An Afternoon with Dr. Conway

I had the pleasure of sitting down with Tyrrell Conway, Ph.D., who is the current department head and Professor for Microbiology and Molecular Genetics at Oklahoma State University. We discussed one of his more recent publications “Applying the Restaurant Hypothesis to Intestinal Microbiota”. Dr. Conway hinted that this project has been one of the most exciting for him to date. The research behind the article is trying to figure out what makes *E. coli* tick. More specifically what type of nutrients/food the bacteria thrives on. With this information we can begin to better understand the bacteria that has such a bad reputation, and be better equipped to utilize it to our benefit.

Many of us have heard of *E. coli* at one time or another, for it is the model organism, and a reliable point of reference for numerous of other bacterial scientific applications. But, what many may not know, is that there are numerous forms of *E.coli* and they all react differently in different environments/conditions. Many of us have a negative opinion towards *E. coli.* because of the few strains that cause sickness, however, *E. coli.* is actually present in the guts of healthy humans and animals, and it makes up part of our natural flora (gut bacteria). Dr. Conway compared *E. coli* and the various strains as being similar to people and the different foods we like to eat, so to speak. For example, one person going to a restaurant may order one thing while somebody else orders something completely the opposite. All of this being a simple way of saying that the same nutrients that work for one strain of *E. coli*, may not exactly work for a different strain. This is one of the many things that has fascinated Dr. Conway and his colleague Paul Cohen, Ph.D., who was the co-author of the paper, so together, the two of them decided to be the ones to answer the questions through their own research.

Dr. Conway mentioned to me that it is his life goal to discover how cells actually work. With that goal in mind he discovered pretty early on in his career that he had an affinity with studying metabolism, which is the sum of all chemical reactions in the body. This passion for metabolism is what was the driving force behind his research he conducted for this publication. He told me that during his collaboration with Dr. Cohen, that he [Conway] was the metabolism guy and jokingly said that Cohen was the rat guy.

Dr. Conway's article sheds light on the interesting topic that is *E. coli* and helps to raise several questions for future scientists to base their research off of in experiments. Dr. Conway expressed that the level of commitment he has to the bacteria E. coli is incredible, he has every desire to see this project to the end.

References:

Conway, Tyrrell, and Paul S. Cohen. "Applying the Restaurant Hypothesis to Intestinal Microbiota." *Microbe Magazine* 10.8 (2015): 324-28. Web.