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Mr. Speice

Independent Study and Mentorship

07 December 2018

College Curriculum and Environmental Biochemistry

Assessment 9 - Interview

Name of Professional: Professor Gabriele Meloni

Title: Assistant Professor

Company: University of Dallas at Texas (UTD)

Date of Interview: 10/30/18

Work Cited:

Meloni, Gabriele. "College Curriculum and Environmental Biochemistry." 30 Oct. 2018.

Assessment:

The following interview was conducted with Professor Gabriele Meloni at UTD to understand college courses over biochemistry and gain insight over environmental biochemistry as part of my original work. By conducting this interview, I had the opportunity to speak to another type of professional than a lab specialist and thus provided an alternative perspective on how individuals in a educational laboratory work together with other students and professors to perform advanced diagnostic tests.

First and foremost, I asked what a college course over biochemistry entails. Professor Meloni offered valuable insight over how students can specialize in biochemistry topics each year. For example, a student could take biochemistry I one semester and then physical

biochemistry the next semester. This interview has influenced me to continue studying biochemistry because of the various research projects and interesting activities students complete throughout the years. However, I was most intrigued by the five year long project Professor Meloni described. The project is based around a question that must develop a series of specifications in order to determine an end product.

In addition to asking about college curriculum, I was curious over how biochemistry is related to environmental sciences. Professor Meloni introduced the topic of bioremediation. Bioremediation is a process that affects the toxicity of metals in the soil by overexploitation them. Professor Meloni commented at length how engineering bacteria to overexpose metals is environment-friendly and cost efficient. As a result, I felt the need to incorporate different environment-friendly and cost efficient methods in my research and original work. Evaluating the toxicity of a metal also plays a hug factor in the bacteria's ability to overexpose the metal. I plan to further analyze the different toxicity levels of metals, as this type of bioremediation really intrigued me.

Other than environmental biochemistry, Professor Meloni also touched on many other types of biochemistry. Some different application of biological chemistry consist within the biomedical field. Professor Meloni explained different types of biomolecules, a term used to describe molecules and ions within an organism, and pathologies, the causes and effects of disease. This wide range of biomedical practices and research fields were interesting; however, I was not as interested in biomedical biochemistry as I was in the environmental application of biochemistry.

As I continued the interview, I was able to understand Professor Meloni's passion for biochemistry. As a teenage, Professor Meloni was fascinated by the world of biology. In highschool, he studied chemistry where he performed numerous research experiments and began to make connections to the natural world. His passion in biochemistry has also sparked my interest in it. I hope to follow a similar path as Professor Meloni in interest to biological chemistry.

After this interview, I have the gist of what a professor or teacher in biochemistry entails. Therefore, for future interviews, I am able to narrow my questions to the analysis of specific biochemist professions. For future references, I also hope to build upon this interview and analyze environmental biochemistry that can help me on my original work process.

10/30/18 Interview with Proffessor Meloni at UTD

- How did you get interested?
  1) Teenager fascinated by world of biology
  2) Highschool - natural world education (chemistry)
     15-20 hr lab research
     * Italy group (organelles)

* Biochemistry Lab — genetically engineer biomolecules
  purified to high qualities (study structure and
  determine function)

College Cirriculum
2 semester classes → 1 specialized / 2nd Biochemistry I

5 year long project to develop series of specifications

Undergraduate ⇒ work together ⇒ graduate } publication

Applications of Biochemistry } pathologies & Biomolecules

Bioremediation
- soils performed overexploiting microorganism (enzymes)

Ex. engineer bacterial overexposing high affinity transition metals

Article
1) introduction - current challenges
2) Knowledge gap trying to fill
3) introduce different approaches already used / new