

**DEPARTMENT OF CHEMISTRY AND ENVIRONMENTAL SCIENCE**  
**SEMINAR SERIES**  
**FALL 2019**

**DATE:** WEDNESDAY, OCTOBER 16, 2019

**WHERE:** TIERNAN HALL LECTURE 1

**TIME:** 1:00-2:20PM

**GUEST SPEAKER**

**Dr. George Polson, PhD**

CSLA Board Advisor

New Jersey Institute of Technology

**TOPIC**

The Chemistry, Biology and Business of *Dandruff*

**ABSTRACT**

*Dandruff* is a common affliction seen in humans and certain animals. In fact, ~50% of the human population suffers from *Dandruff*. A common fungus (*Malassezia* species) that resides on everyone's scalp is thought to be the cause of *Dandruff*. Proliferation of this fungus ultimately manifests as white to yellowish flakes that slough off from the scalp (skin), often accompanied by itching and irritation. This talk will focus on etiology of dandruff and the treatments used to mitigate the condition - discussing the confluence of chemistry, biology and business to develop the most cost-effective and beneficial treatment for mitigation of *Dandruff*. One intent of this seminar is to educate the students about problem solving skills needed to tackle consumer needs and capitalize on business opportunities, thereby enhancing and enriching their career after gaining employment with their science degree. The students will learn how one's curiosity, ability and creativity to solve complex problems through a multidisciplinary approach can lead to elegant solutions while learning many new facts. Once you enter a career, there are so many directions one can go and so many things one can learn, see and experience during that journey.

Because of its global prevalence and the itchiness and scalp disorders as well as the social stigma caused by *Dandruff*, (not to mention the business opportunity) - many leading multi-national consumer-care companies have worked hard to develop products that treat this affliction. Treating and mitigating *Dandruff* is a huge global business and the revenue of various finished products bought by consumers around the globe account for ~\$5 Billion USD spend per year. Zinc Pyrithione (ZPT) - the world's #1 active ingredient (used in global brands like Head & Shoulders-P&G, Clear-Unilever, Fructis- L'Oréal, T/Gel- Neutrogena) was developed over 60 years ago and first marketed in 1965 by P&G and is still the most cost-effective and most popular active ingredient. The talk will also touch on what it takes to push the envelope to develop new and improved anti-dandruff shampoo products or therapies with enhanced efficacy and hair feel that continue to delight the consumer.

**Committee members:**

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