WAIT! IS THAT HUMAN SKIN? OPTIMIZATION OF ARTIFICIAL SKIN BY REFLECTING AGE AND ETHNICITY TO DETERMINE ELEMENTAL RISK ASSOCIATED WITH COSMETICS USING ICP-MS. **Lisa Tritz** and Nausheen Sadiq, Mount Royal University, Department of Chemistry, 4825 Mount Royal Gate SW, Calgary, ABT3E6K6, Canada. (ltrit251@mtroyal.ca)

Skin is the first defense against the outside world, continuously exposed to products such as creams, masks, and makeup, prompting the question: how can the safety of cosmetic products be assured? Cosmetic preparations have been shown to contain heavy metals such as lead, mercury, cadmium, arsenic and nickel[1]. Understanding the impacts of dermal heavy metal exposure is essential for developing robust regulations in the cosmetic industry. Previously, the permeability of heavy metals through skin was evaluated with a chitosan membrane that mimics human skin. This project aims to optimize the chitosan membrane to reflect a variety of ages and ethnicities, to comprehensively evaluate the permeability of these heavy metals, using ICP-MS. The suitability of the membranes for this experiment in representing "real skin" will be assessed by comparing them with Strat-M® membranes which have been shown to resemble human skin through permeability in vitro experiments [2].

[1] Borowska, S.; Brzóska, M. M. J. Appl. Toxicol. JAT 2015, 35 (6), 551–572.
[2] A. Haq; B. Goodyear; D. Ameen; V. Joshi; B. Michniak-Kohn, Int J Pharm., (2018) 547.