Dr David Moore has been involved in skin barrier research science and topical formulation development for 25 years. He is based in Edinburgh leading Scientific Engagement and Business Development for Tioga Research in Europe. Prior to joining Tioga Research in 2020 David was at GSK where he led skin health R&D activities in North Carolina, New Jersey, and the United Kingdom. David has led R&D groups focused on the skin barrier, topical formulations and materials science at TRI-Princeton, Unilever, and ISP (now Ashland). In addition to his industrial roles, he has held visiting academic positions at Rutgers University, Princeton University, and University College-London, and has served as an industrial advisor to graduate students at several universities in the US and UK. David has authored over 100 peer-reviewed papers and presents often at international conferences. He is on the editorial board of the International Journal of Cosmetic Science and the scientific committee for the 32nd IFSCC Congress to be held in London in 2022. David is an elected fellow of the Royal Society of Chemistry and was co-chair of the 2019 Gordon Research Conference on The Barrier Function of Mammalian Skin. In 2021 David joined the University of Cincinnati as an adjunct professor in the school of pharmacy and holds a visiting position at the University of Edinburgh.

Abstract: There remains significant interest amongst formulators developing skin cleansers in understanding and characterizing the interaction of cleansing formulations with the skin barrier. As is well known and was discussed in a CDR seminar several years ago, surfactant chemistry, formulation pH, cleansing temperature, and several other variables profoundly impact the interaction between cleansing formulations and the skin. The desire to deposit specific ingredients from cleanser

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formulations adds another level of complexity particularly as in some cases the intention is to deposit an ingredient to the skin surface, while in others, the intention is to deliver and retain an ingredient within the stratum corneum. Before progressing to clinical studies, it is clearly very useful and more efficient to employ pre-clinical biophysical methods and models to inform product development as well rank and screen formulations. Additionally, biophysical studies with ex vivo human skin may form the basis of mode-of-action and deposition claims for cleanser formulations or provide data to support patent applications. This presentation will review some of the techniques we have used in the context of skin cleanser formulations to assess their interaction with the outer layers of skin including methods to measure skin deposition and delivery. The utility of high throughput experimental approaches to manage experimental variability, as well as to permit the screening of a larger cleanser formulation space, will also be discussed and illustrated.

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