

Center for Dermal Research

Innovations in Dermatological Sciences Conference 2023



Dr. Gabriella Baki

Gabriella Baki is an associate professor at the University of Toledo College of Pharmacy and Pharmaceutical Sciences. She serves as the program director and main instructor for various lectures and laboratories in a unique undergraduate program, the BS in Pharmaceutical Sciences Cosmetic Science and Formulation Design major. It is the first and most comprehensive undergraduate program in the United States that focuses exclusively on cosmetics and personal care products.

Dr. Baki is a pharmacist, graduated in 2008 from the University of Szeged, Hungary; and she also has a PhD in Pharmaceutics from the same university. She has been a faculty member at the University of Toledo since January 2012. Dr. Baki's main research focus lies in the area of topical delivery for active ingredients and cosmetic actives, sensory testing of creams and lotions, as well as sun protection factor and broad-spectrum boosting technologies. Dr. Baki has made over 20 technical presentations and written over 45 publications. She has contributed to a few book chapters and has a book, *Introduction to Cosmetic Formulation and Technology*; its second edition was published by John Wiley and Sons in January of 2023.

Dr. Baki is also actively involved in the cosmetic science community and is serving as chair of the Society of Cosmetic Chemists NextGen Advisory Committee in 2023.

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“Foundations for People of Color – The Effect of Ultramarine Blue”

Abstract:

Foundations for skin of color contain a larger amount of iron oxide black, which can lead to a displeasing gray cast. This is usually not a concern in lighter foundations due to the lower pigment load. However, the range of colors and undertones could be expanded in light foundations. The goal of this study was to evaluate the effect of ultramarine blue versus black iron oxide, and titanium dioxide versus zinc oxide in eleven darker and eleven lighter loose powder foundations. The ratio of black iron oxide versus ultramarine blue, and zinc oxide versus titanium dioxide was varied between 0-100%. Color was tested objectively with a spectrophotometer, visually on Lenata paper, and subjectively in a small consumer study. Visual evaluation, consumer feedback, and $L^*a^*b^*$ values indicated that the effect of modifying the ratio of ultramarine blue, zinc oxide, and titanium dioxide was detectable in both

foundation groups, however, the extent and direction of change was not following the same trend. Ultramarine blue created tones that were redder in hue and decreased the gray cast in dark foundations. Zinc oxide reduced the gray cast upon rubout. This study provides examples of how to produce more inclusive foundation lines for consumers as diversity and inclusivity initiatives are increasing worldwide.