

The University of Cincinnati Skin Science & Technology Collaborative Faculty Expertise
June 2017

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Online Simulation Tools

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Patents:

Boyce ST. US Patent 6,905,105, **"Apparatus for preparing a biocompatible matrix"**. Assignees: University of Cincinnati and Shriners Hospitals for Children.

Boyce ST. US Patent 7,452,720B2, **"Apparatus for preparing a biocompatible matrix"**. Assignees: University of Cincinnati and Shriners Hospitals for Children.

Boyce ST. European Patent #1483373, **"A surgical device for skin therapy or testing"**. Assignees: University of Cincinnati and Shriners Hospitals for Children.

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Boyce ST. US Patent 7,741,116, **“A surgical device for skin therapy or testing”**. Assignees: University of Cincinnati and Shriners Hospitals for Children.

Boyce ST. Japanese Patent #4,555,576, **“A surgical device for skin therapy or testing”**. Assignees: University of Cincinnati and Shriners Hospitals for Children.

Boyce ST. Canadian Patent #2,478,100, **“Apparatus for preparing a biocompatible matrix”**. Assignees: University of Cincinnati and Shriners Hospitals for Children.

Boyce ST. European Patent #1,483,365, **“Apparatus for preparing a biocompatible matrix”**. Assignees: University of Cincinnati and Shriners Hospitals for Children.

Boyce ST. US Patent 8,450,108, **“A surgical device for skin therapy or testing”**. Assignees: University of Cincinnati and Shriners Hospitals for Children.

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Jerry Kasting, College of Pharmacy
Skin Health & Therapeutics

Biography

Dr. Kasting is Professor of Pharmaceutics and Cosmetic Science at the University of Cincinnati's James L. Winkle College of Pharmacy. He teaches in the College's graduate and professional programs and serves as chair of the Division of Pharmaceutical Sciences. His research is in the area of percutaneous absorption. Prior to beginning an academic career in 1999, he served as a senior scientist with the Skin Beauty Care Technology Division of Procter & Gamble's Miami Valley Laboratories, working on the development of improved skin care products. He received his B.A. in Chemistry from Vanderbilt University in 1975 and his Ph.D. in Physical Chemistry from MIT in 1980. He has published over seventy papers in the above areas and holds eight patents associated with his work. He is a two-time recipient of the Shaw Mudge Award from the Society of Cosmetic Chemists and was the 2005 chair of the Gordon Research Conference on Barrier Function of Mammalian Skin. He serves on the Editorial Board of the *Journal of Pharmaceutical Sciences* and *Pharmaceutical Research and Development* and as a referee for several other major pharmaceutical journals. His current research is focused on the development of improved computational models for topical delivery and dermal risk assessment based on a mechanistic understanding of the percutaneous absorption process. Projects include development of microstructural models for transport through the stratum corneum and hair follicle, prediction of solvent and pesticide absorption and evaporation rates from skin, estimation of the epidermal bioavailability of contact allergens and iontophoretic drug delivery to the nail. In 2013 Dr. Kasting received the Excellence in Doctoral Mentoring Award from the University of Cincinnati for his work with graduate students.

Research and Clinical Interests

Development of computational models for absorption of materials into and through the skin with the objective of developing better tools for prediction of topical drug delivery, transdermal drug delivery, and dermal exposure to noxious agents.

Publications

Dancik, Y., Miller, M. A., Jaworska, J., & Kasting, G. B. (2013). Design and performance of a spreadsheet-based model for estimating bioavailability of chemicals from dermal exposure. *Advanced Drug Delivery Reviews*, 65 (2), 221-36.

Nitsche, J. M., & Kasting, G. B. (2013). A correlation for 1,9-decadiene/water partition coefficients. *Journal of Pharmaceutical Sciences*, 102 (1), 136-44.

