



RESEARCH SEMINAR SERIES

The Center for Dermal Research and the
Basic&Applied Dermatology Forum

Welcome Dr. Robert Verdicchio, author of
“Nanospace the Next Industrial Revolution”
Tuesday, December 1st; 1pm-2pm



Dr. Bob is an industrial scientist and formulator with more than fifty years' experience in the chemical Specialties arena having developed a myriad of products designed for the Health and Beauty Care markets. He is the author/co-author of more than fifty patents publications and scientific poster presentations with skills including an extensive knowledge of patent law and technology analysis/assessment He has been associated with Unilever and several pharmaceutical companies including Johnson and Johnson from which he retired in 1995. Prior to retirement from J&J he was Manager of International and New Product Development on a worldwide basis. He achieved recognition for Excellence in Science and was appointed Corporate Research Fellow for his contributions to Health Care research. After retirement he founded Verdi Enterprises a consulting and complete product development company engaged in Health Care consisting of Cosmetics Cosmeceuticals and OTC drugs

designed for topical use. He is an Emeritus member of the Society of Cosmetic Chemists and holds a BSc. in Chemistry and Ph.D. in Metaphysics.

ABSTRACT: Nature has evolved over billions of years using nanotechnology to perfect more than eighty percent of biological systems producing the myriad of forms we witness today. Man's use of nanotechnology can be traced back to medieval times where nangold was used to create the color patterns we see on stained church glass windows. The nanoscale involves using materials a billionth of a meter, creating a space which allows fabrication of materials based on quantum laws to create new products and processes. The use of nanoscience for Biomedical and skin applications extends into Fullerene chemistry and “Buckeyballs”, a natural potent free radical scavenger and delivery agent. Top down nanofabrication (TDN) consists of systematically reducing a **single particle** such as slicing a football down to 1—100 nanometers producing enough particles to cover hundreds of football fields. Similarly, at the atomic level the use of Nanogold for biomedical applications becomes cost effective. Bottom/up nanofabrication (BUN) employs molecular recognition to initiate self-assembly which results in materials many magnitudes stronger than steel such as nanotubes and nanodots. As a result, space elevators/construction, climatic issues, renewable energy and much more are on the drawing board. Nano technology will undoubtedly affect every aspect of society as we move forward in time. Through the use of advanced electron microscopy and x ray scattering scientists are now able to directly witness self-assembly of nano-systems(BUN). Understanding self-assembly of atomic particles and quantum dots is the key factor in harnessing the full potential of Nanospace.

For more information contact Otto Mills PhD FCP; Rutgers Robert Wood Johnson Medical School at: otto@ohmills.com

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