

RESEARCH REMOTE SEMINAR SERIES

The Center for Dermal Research welcomes

Mark Chandler, President of ACT Solutions Corp
“Pandering to Polar Actives”

Monday, September 13, 2021 at 5:30pm EST



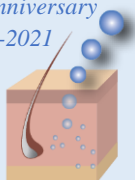
Mark Chandler is President of ACT Solutions Corp, a formulation design consultancy and laboratory founded in 2012, serving the cosmetic and topical pharmaceutical industries, focusing on Adaptive Aesthetic Design™, Advanced Emulsion Solutions™, and Formulating for Efficacy™.

Mark has been in the industry for over 35 years, most recently serving as skin care applications manager for Croda Inc. He has had roles in Sales, Marketing, Strategic Planning and Acquisitions, and Research and Development. Mark has taught courses for the SCC, CfPA, and SpecialChem on Cosmetic Formulation, Cosmetic Raw Materials, Aesthetic Design, Liquid Foundation Emulsions, Practical Basics and Theory in Emulsion Technology, Formulating for Efficacy, Surfactant Selection, Formulating with Food Ingredients, and Low Energy Emulsification for over 20 years.

Mark also is a frequent lecturer at the University of Toledo – College of Pharmacy and Pharmaceutical Sciences. He was awarded Fellow status by the Society of Cosmetic Chemists in 2014 and is currently serving on the SCC national board as Vice President-elect (transitioning through to President in 2023). Mark has presented technology in over a dozen countries throughout North and South America, Europe, Asia, and Australia. He has authored numerous technical articles and chapters in such publications as Harry’s Cosmeticology and the Kirk-Othmer Encyclopedia of Chemical Technology.

Abstract: A great deal of effort over the past decades has been focused on delivery optimization of lipophilic actives. While this is of great importance, there are classes of actives that have not received proper attention. These fall in the realm of water-soluble and other polar actives. Because the *stratum corneum* barrier is net hydrophobic, the design is especially good at limiting delivery of all polar materials, including ones that can help. An associated problem is that an aqueous solvent carrier system evaporates far more quickly than a polar active can diffuse to the skin. (continues on page 2)





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Through use of Hansen Solubility Parameters and the Formulating for Efficacy™ Software modeling tool, a formulator can overcome the challenges presented by polar actives and develop products that deliver. There are three basic challenges associated with the delivery of any active – Solubility, Size, and Space. If an active is not sufficiently dissolved, it will not deliver. If an active is particularly large, it has a tough but not impossible task of diffusing. If the gap, or space, in polarity between the active in the barrier is high, polarity bridges should be built.

CONFERENCE LINK:

Meeting link:

<https://rutgers.webex.com/rutgers/j.php?MTID=m48aaa4f40e8bfa60fe8df76eeaf4e617>

Also posted on our website:

<https://sites.rutgers.edu/centerfordermalresearch/cdr-events/seminar-series/>

Or send an email to cdr_frontdesk@dls.rutgers.edu to request a direct invite.



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