Ohio Valley Chapter
of the
Society of Cosmetic Chemists

November Meeting Information
Wednesday November 16, 2011

Subject: Annual Student's Night Presentations

Presented by: **Students from the University of Cincinnati Cosmetic Science Program**

Location: **The Montgomery Inn**
9440 Montgomery Rd
Montgomery, OH 45242
513-791-3482

Times: **5:00 – 6:00 pm Social Hour**
6:00 – 7:30 pm Dinner/Talks

Registration Information	
Please Register by: 11/14/2011	
Members	$40
Non-members	$50
Students	Free

*** **Easy registration & payment at www.ovscc.org** ***

Meeting Notes: This month will feature our annual student speaker presentations from Drs. Randy Wickett and Gerald Kasting's Cosmetic Science students. Please take a moment to read the abstracts on the following page.

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November Students Night
Presentation Abstracts

Title: **Characterization of Ion Transport in Nail Plate**
Presented by: **Sudhir Baswan**

Abstract: Onychomycosis is a type of fungal nail infection which accounts for 50% of all nail disorders and affects around 18% of the US population. Topical antifungal delivery via iontophoresis is an effective technique which can overcome the efficacy problems associated with currently available oral and topical treatments. Although, considerable effort is in place to develop these devices, little has been done to characterize ion transport behavior across the nail plate. In order to correctly evaluate and eventually predict iontophoretic drug delivery rates, it is vital to understand the physics of ion transport in nail plate. This presentation will focus on efforts in progress to characterize transungual ion transport.

Title: **Multimodal Quantitative Analysis of Early Pulsed Dye Laser Treatment of Scars at a Pediatric Burn Hospital**
Presented by: **Shona Burkes**

Background: The ideal management of hypertrophic scars related to burn injuries poses a challenging clinical problem. The Pulsed-Dye Laser (PDL) is a potential adjunctive therapy for treating patients with hyperemic and hypertrophic scars. Previous clinical work has reported variable success. The purpose of this study was to measure the effects of PDL treatment on scars associated with skin grafts.

Study Design/Materials and Methods: After obtaining Institutional Review Board approval, patients nine years of age or older and undergoing reconstruction with split-thickness skin grafts to the extremities were recruited for the study. Patients received laser treatment to a randomized selection of one-half of the skin graft with the other one-half serving as control. All patients received standard compression therapy over the entire graft area. Evaluation and laser treatment was repeated at 6-week intervals until at least one-half of the graft was judged to have reached sufficient clinical improvement, by a blinded therapist. Clinical evaluations using the Vancouver Scar Scale (VSS), digital photographs, three-dimensional laser scans, and biomechanical measurements were made of each half of the scar prior to each laser treatment.

Results: Seventeen patients with 26 scars were randomized and received at least one treatment and 13 subjects with 21 scars had at least two treatments. A significant decrease in scar erythema and height and an increase in tissue elasticity were observed after 3 PDL treatments. Significant improvement was observed in vascularity, pliability, and height with the VSS clinical assessments. VSS vascularity and pigmentation were positively correlated with the objective measures of hyperemia.

Conclusion: The results of this study support of the efficacy of the PDL as a treatment modality to reduce scar hyperemia, decrease scar height, and to normalize the biomechanical properties of burn-related scars.

Bulletins from the Board

Fellow OVSCC Members,

I am looking forward to the position of Chair for the upcoming year. It is a bit of “déjà vu” for me since I had served in this position back in 2001.

Through the efforts of the all the SCC Chapters we support a great industry. I have worked in this industry for Manufacturers and Distributor/Agents for over 35 years. I can remember my first job working in Technical Services and doing salt curves on the betaines that the company was promoting at that time. With that same company I worked in production for over 5 months during a plant strike that had occurred. Ultimately, I wound up in a sales position which I continue to this day.

As the world and our industry continue to evolve it is important that our Chapter continues to flourish. One of my main goals is to maintain and grow our Chapter membership. There is also a need grow attendance at our meetings.

I will be looking toward our membership for support for the OVSCC Chapter to achieve these goals. If anyone has any ideas or thoughts feel free to contact me.

Joe Jendzio – OVSCC Chair 2012

On October 4th, 2011 the 13th Annual OVSCC Golf Outing was held at The Twin Oaks Golf and Plantation Club in Covington, Kentucky. We had a fantastic turnout and we couldn't have asked for a better day! I already put in a request for a mulligan for next year! A very special thanks goes out to all of this years' sponsors! As always, we achieved an overwhelming response to benefit the scholarship fund with over, an AMAZING, **five thousand dollars** being raised this year! We couldn't have done it without your help and it is very much appreciated.! Thank you so much!!!

We look forward to seeing you all again next year!

Julie Moser

Advice to the Lab Lorn

"Advice to the Lab Lorn" is intended to offer advice, pertinent information or maybe just solace, for confusing, challenging or downright murderous issues facing SCC members in their labs. Send us your questions at lablorn@caliscc.org and we'll track down an authority or two and get back to you in the next offering of the Lab Lorn. We won't publish your name for all to see. Your secrets are safe with us.

John Garruto – President, Free Radical Technology – Editor

Q. We have a moisturizer formula that is made with a glucoside-based liquid crystal emulsifier that requires homogenization to correctly process the emulsion. Our contract manufacturer does not possess a homogenizer. Aside from changing manufacturers or the formula, do you have any recommendations for an alternate method?

A. Let's look at a typical emulsion (o/w) based on traditional ethoxylated emulsifiers. We typically heat both the aqueous and lipid phases to the proper processing temperature (generally 75-85°C). The lipid phase is then added to the aqueous phase and the product is mixed and cooled according to the batching procedure. When working with glucoside-based emulsifiers, the initial processing is roughly the same. The batch temperature after phase introduction is approximately 75-80°C and there is very little hydrogen bonding at this point. We then normally apply some form of high shear mixing to the emulsion to reduce particle size and to insure stability. The batch is then cooled and mixing should be done slowly* with very little shear to insure the orderly formation and distribution of liquid crystals comprised of both long chain fatty alcohol and spherical micelles.

One technique that we have employed successfully without the addition of high shear or homogenization is to add the water phase slowly to the oil phase of glucoside-based emulsion systems. Thus, these emulsions that normally, at room temperature, have an HLB of approximately 12 now have an HLB of somewhere in the vicinity of 5. They want to form water-in-oil (w/o) emulsions and in fact, do. As the emulsion cools, hydrogen bonding and HLB increases. There is a temperature, the Phase Inversion Temperature (PIT), at which the emulsion now inverts from w/o to o/w emulsion. When this occurs, the particle size will decrease and the distribution of these particles narrows. Both conditions make for an aesthetically acceptable, stable emulsion.

Naturally, you will need to verify the procedure in your own lab. This method may not work with all glucoside-based emulsions. You should perform all the usual stability testing to insure that the phase inversion process is acceptable for your product.

*One of the most commonly occurring processing problems that I have encountered over the years with liquid crystal emulsion systems is the application of rapid mixing or high shear forces below a process temperature of about 60°C. High Shear agitation below this temperature can disrupt the orderly formation of liquid crystals and the resulting emulsion may exhibit a lower viscosity and a greater propensity for instability.

SAVE THE DATES

SOCIETY OF COSMETIC CHEMISTS
OHIO VALLEY CHAPTER
IMPORTANT DATES

NOVEMBER
CHAPTER MEETING
November 16, 2011

DECEMBER
SCC
Annual Scientific Meeting & Technology Showcase
December 8-9, 2011
New York Hilton Hotel
New York City

SCC

HERE'S YOUR OPPORTUNITY TO GET INVOLVED WITH THE OVSCC

Our fine Newsletter Editor, Brandon Lane, has decided to hang up his keyboard. The OVSCC Chapter appreciates the effort and commitment that he has given over the past five years.

If any one of our Chapter Members would like to get more involved and take on this role please contact one of the Board Members.

-Joe Jendzio

PLEASE SUPPORT OUR GRACIOUS SPONSORS

The Ohio Valley Chapter Newsletter is published in February, April, September and November prior to each chapter meeting. Questions concerning the newsletter content should be directed to the Newsletter Editor. For information on paid advertising please contact our Business Manager.

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