COURSE OUTLINE

This is an advanced course on Biochemistry of the Skin. A brief review of the basics of skin structure and function will be covered. Students should have a basic understanding of cell biology and biochemistry.

**Biochemistry of the Dermal Matrix**
- Fibroblasts and Mast Cells
- Collagen, Structure, Formation and Cross-linking
- Elastin
- Glycosaminoglycans (GAGs)

**Biochemistry of the Epidermis**
- Overview of epidermal layers
- Structure of the Dermal Epidermal Junction
- The basal layer and skin stem cells
- Keratins, structure, function and disorders
- Aquaporins in the epidermis
- Tight Junctions in the epidermis
- The Stratum Granulosum
  - Keratohyalin and lamellar granules
  - Programed cell death
- Formation of the bricks and mortar of the SC
  - Transglutaminase and the SC Cell Envelope
  - SC Lipids and Barrier Formation

**Biochemistry of the SC Barrier**
- Conversion of pro-barrier lipids to barrier lipids
- Natural Moisturizing Factors of the SC
- SC Desmosome Formation and Breakdown
- Breakdown and Repair of the SC barrier

**Biochemistry of Skin Color**
- Melanocytes, Melanosomes and pigment production
- The MCR1 receptor and skin color
- Genetics of skin color
- Skin lightening agents

**Skin Aging and Photo-Aging**
- Intrinsic Aging – Effect on SC and Dermis
- Photo-aging VEGF and blood vessel growth
- The MAP Kinase Pathway and MMP production
- Histological changes with photo-aging

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About The Instructor

**Randall Wickett, Ph.D.**  Obtained his Ph.D. in biophysics from Oregon State University of Corvallis Oregon in 1972 and was a Postdoctoral Fellow at the University of Minnesota in the Department of Chemistry, from 1972-1974. He worked at Proctor & Gamble’s Miami Valley Laboratories from 1974 to 1985 and in the department of Dermal Research, S.C. Sjohson & Son, Inc. from 1985-1991. He joined the University of Cincinnati College of Pharmacy as Associate Professor of Pharmaceutics and Cosmetic Science in 1991 and was promoted to the rank of Professor in 1998. He also serves as a consultant to several major skin and hair companies. Dr. Wickett is a Fellow of the Society of Cosmetic Chemists (SCC) and has received numerous SCC technical awards including the Maison G. de Navarre Medal Award, The SCC’s highest award for technical achievement. He was also editor of the Journal of the Society of Cosmetic Chemists from 1991 to 1997.

-Course hours: 9:00 A.M. – 5 P.M.
-Registration fee includes all course materials, lunch, coffee & beverage breaks.
-**Parking fees are not included**
-Check the SCC website at [www.scconline.org](http://www.scconline.org) for hotel information.
-ALL CHECKS ARE TO BE PAID IN U.S. DOLLARS DRAWN ON A BANK WITH AN ADDRESS IN THE UNITED STATE AND PAYABLE TO THE SOCIETY OF COSMETIC CHEMISTS.
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**REGISTRATION FORM**

REGISTRATIONS CAN BE SENT TO SCC VIA:

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120 Wall Street, Suite 2400  
New York, NY 10005-4088

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American Express, Visa and Master Cards are accepted for payment. All Checks should be made payable to Society of Cosmetic Chemists. Please type or print your name, as you want it to appear on your badge and certificate. Reproduce this form for additional registrations. *All courses must be paid in full before course date. **DO NOT ASSUME YOU ARE REGISTERED UNLESS YOU RECEIVE A PRINTED CONFIRMATION.**

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QUESTIONS? Phone Doreen Scelso at the SCC National Office at (212) 668-1500

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