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Eugene J. Van Scott, M.D., and Ruey J. Yu, Ph.D., OMD, Receive Dermatology Foundation’s Discovery Award

The Dermatology Foundation (DF) recently recognized the profound impact of Eugene J. Van Scott, M.D., and Ruey J. Yu, Ph.D., OMD, on the specialty of dermatology at their annual membership meeting in Miami. The DF’s prestigious Discovery Award was jointly awarded to Drs. Van Scott and Yu for their work with alpha-hydroxyacids (AHAs) and their tremendous effect on epidermal keratinization in ichthyosis—a devastating skin disease that had previously been virtually untreatable.

The pioneering co-authors—Van Scott a dermatologist and skin biologist, Yu a dermatopharmacologist and skin chemist—submitted the landmark publication in October 1974, and were excited about their discovery, with plans to explore the therapeutic value of these AHAs in other diseases of hyperkeratinization. They never dreamed of the multiple ways in which these gentle acids would impact how the specialty cares for the skin.

James J. Leyden, M.D., Professor Emeritus of Dermatology at the University of Pennsylvania, presented their contributions:
“Van Scott and Yu found that these small molecules have multiple effects on skin. Recognizing the similarity to the effects of topical retinoids, they studied the AHAs in other skin disorders and found significant benefit in acne, photodamage, and aspects of aging skin. Forty years after their original observations, AHAs in various formulations and applications are used daily by dermatologists around the world. Van Scott’s and Yu’s discoveries led to the genesis of a whole industry based on AHAs.”

Van Scott and Yu began their enduring collaboration in 1969, when their professional lives intersected in the Dermatology Department at Temple University’s Skin and Cancer Hospital. Yu—born into extreme poverty in rural pre-war Taiwan—saw education as his escape route. He eventually studied chemical engineering in a nearby vocational high school, then taught himself the academic courses he needed for applying to National Taiwan University. He earned his M.S. in chemistry there and then went to the University of Ottawa for his Ph.D.—all on full scholarship. Yu completed his post-doc at Canada’s National Research Council. He was fascinated with the effects of natural substances on the skin and proceeded to develop his expertise in dermatology.

Van Scott arrived at Temple University in 1968 after 15 high-impact years with the NIH. He grew up on a farm in upstate New York, and had always been interested in science and discovery. His interest in skin had begun with his frequent poison ivy dermatitis. His intense interest in dermatology was inspired by the legendary Dr. Stephen Rothman at the University of Chicago. Van Scott began working in Rothman’s research lab during medical school. After completing his residency there in 1952 and an interim year at the University of Pennsylvania, Van Scott established the Dermatology Service at the NCI and orchestrated its growth to the Dermatology Branch that we know today. He also became the NCI’s Director of Intramural Research and then Scientific Director for General Laboratories and Clinics before returning to academic medicine at Temple.

Van Scott and Yu shared a passion for science and exploration, a thirst for new knowledge, a fascination with skin biology and therapeutic substances, and the desire to help
patients with difficult skin diseases. They had traveled very different routes to reach this meeting of the minds. When Van Scott went looking for a research collaborator, he recognized a common bond in Yu.

“When Ruey and I first met, we clicked,” Van Scott recalled.

They chose to search for compounds affecting keratinization because it is disordered in the majority of skin diseases, and began with ichthyosis. Van Scott asked Yu to suggest a nontoxic compound that could penetrate the thick scales and epidermis of these patients.

“I thought physiologic, and prepared organic acids from apples, oranges, and other natural sources,” Yu remembered.

He incorporated each one into a cream base, including salicylic acid, then the sole (and inadequate) treatment for ichthyosis. Patients applied the coded compounds on their arms—several times daily for a week—in small numbered circles. Yu and Van Scott were astonished and elated to see each patient return with normal skin in certain test areas, due to what they decided to call alpha-hydroxyacids.

After successfully treating acne and turning to seborrheic keratoses, the before and after photographs unexpectedly showed disappearing wrinkles. Their pursuit of this discovery uncovered substantial value in treating skin damage from both sun exposure and aging. Van Scott and Yu developed polyhydroxy acids for sensitive skin, and along the way, they co-founded NeoStrata.

After their landmark article appeared, the course of their careers changed. Van Scott entered private practice and Yu went on to study oriental medicine and become a licensed acupuncturist. Their vigorous research collaboration, however, continued to flourish and they now have more than 110 patents. Yu has published more than 50 papers. Van Scott has published close to 200, and his broad imprint on the specialty has been recognized by various honors.

Van Scott and Yu continue to find “excitement in the search” as they look for ways to normalize diseased skin more permanently. Their ultimate focus—from the very start—has been psoriasis.
“Dr. Yu and I had agreed that, in our lifetime, we are going to find that answer,” Van Scott said.

The Dermatology Foundation was created in 1964 and is the leading private funding source for skin disease research. It provides funding that helps develop and retain tomorrow’s teachers and researchers in dermatology and enables advancements in patient care.

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