

Living Skin Bank Shares Dental School's Vision

Visitors to the School of Dental Medicine are often surprised to learn that it houses the Living Skin Bank, a laboratory facility dedicated to producing human skin allografts and autografts for clinical application at Stony Brook University Hospital. Although the Living Skin Bank is an unusual component of a dental school, it embodies many aspects of the school's mission, especially the need to focus beyond the dentition to the total well being of every patient.

The decision to create the Living Skin Bank came about in the late 1980s. Dr. Harry S. Soroff, then Chairman of the Department of Surgery in the Medical School and current head of the Burn Center at Stony Brook University Hospital, believed that new therapies including skin autografts were needed to treat burn victims. The School of Dental Medicine seemed like the logical setting for the Living Skin Bank because of the availability of several research laboratories within a newly constructed addition. A bonus was the presence of Lorne Taichman MD, PhD, an established scientist in keratinocyte biology and a professor in the Department of Oral Biology and Pathology. The Living Skin Bank was subsequently located within the organizational umbrella of the Department of Oral Biology and Pathology under the leadership of Dr. Israel Kleinberg.



Dr. Marcia Simon examines cultured skin samples in her laboratory.

Both the Burn Center and the Living Skin Bank play crucial roles on Long Island. Volunteer firefighters throughout the region have championed these facilities through their donations and political support. Funding for the Living Skin

Bank has been provided by the State through the efforts of State Senator Kenneth LaValle, Chairman of the New York State Senate Higher Education Committee, who has given high priority to its continued funding.

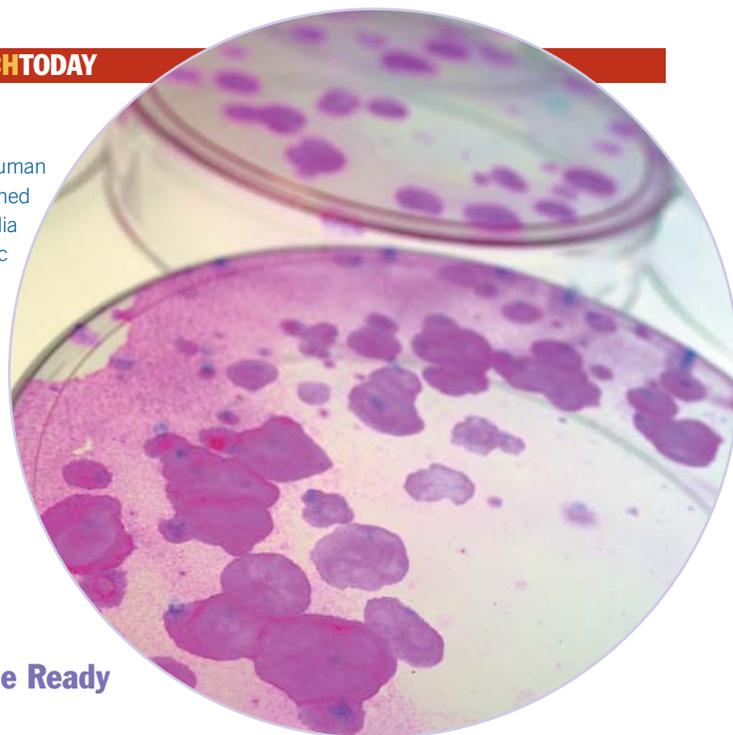
The mission of the Living Skin Bank is twofold: to supply cultured epithelial autografts and allografts either as a permanent replacement for massive full-thickness burns or as biologic dressings for partial thickness skin injury, and to conduct research that enables new therapies to be developed to treat burn wounds. Success in these areas has been achieved as a result of the combined research and clinical expertise, and the personal commitment to patient care, that Drs. Simon and Soroff have demonstrated from the program's first days.

The Living Skin Bank became fully operational in 1990 with the recruitment of Dr. Marcia Simon as Director, whose scientific abilities and leadership helped make it a successful program. It was while doing her post-doctoral fellowship in the laboratories of Dr. Howard Green at Harvard Medical School that Dr. Simon began producing cultured epithelial autografts for severely burned children at Shriners' Burn Hospital in Boston. During that time she experienced the personal reward of bridging research and clinical application, a feeling that continues to be reinforced by her experiences at Stony Brook and one that provides strong motivation for her work.

Dr. Simon's laboratory conducts research in retinol metabolism, squamous cell carcinoma, stem cell biology, and epithelial cell biochemistry. Research of this nature necessitates that Dr. Simon be a fundraiser, ensuring that all avenues of potential support are explored. As laboratory Director, she must see that projects are on track and well thought out and that the laboratory is well run, well stocked, and employs individuals with appropriate talents.

"As a researcher dealing with life-threatening injuries, I am ever mindful that research outcomes must translate into improved clinical outcomes," said Dr. Simon. ■

Colonies of human skin cells nourished by artificial media proliferate in plastic petri dishes.



Always at the Ready

The Living Skin Bank is prepared to gear up on short notice. A prime example occurred within hours of the attack on the World Trade Center, when Dr. Marcia Simon directed a rapid increase in the production of cultured skin allografts, which were to have been used for any survivors moved to the Burn Center.

While teaching is not a mandate for the Living Skin Bank, it is certainly part of its mission. Dr. Simon has instructed high school, undergraduate, graduate, and post-graduate students, residents, and clinical fellows. She has also trained physicians and scientists from around the globe in order to facilitate the establishment of similar facilities worldwide.

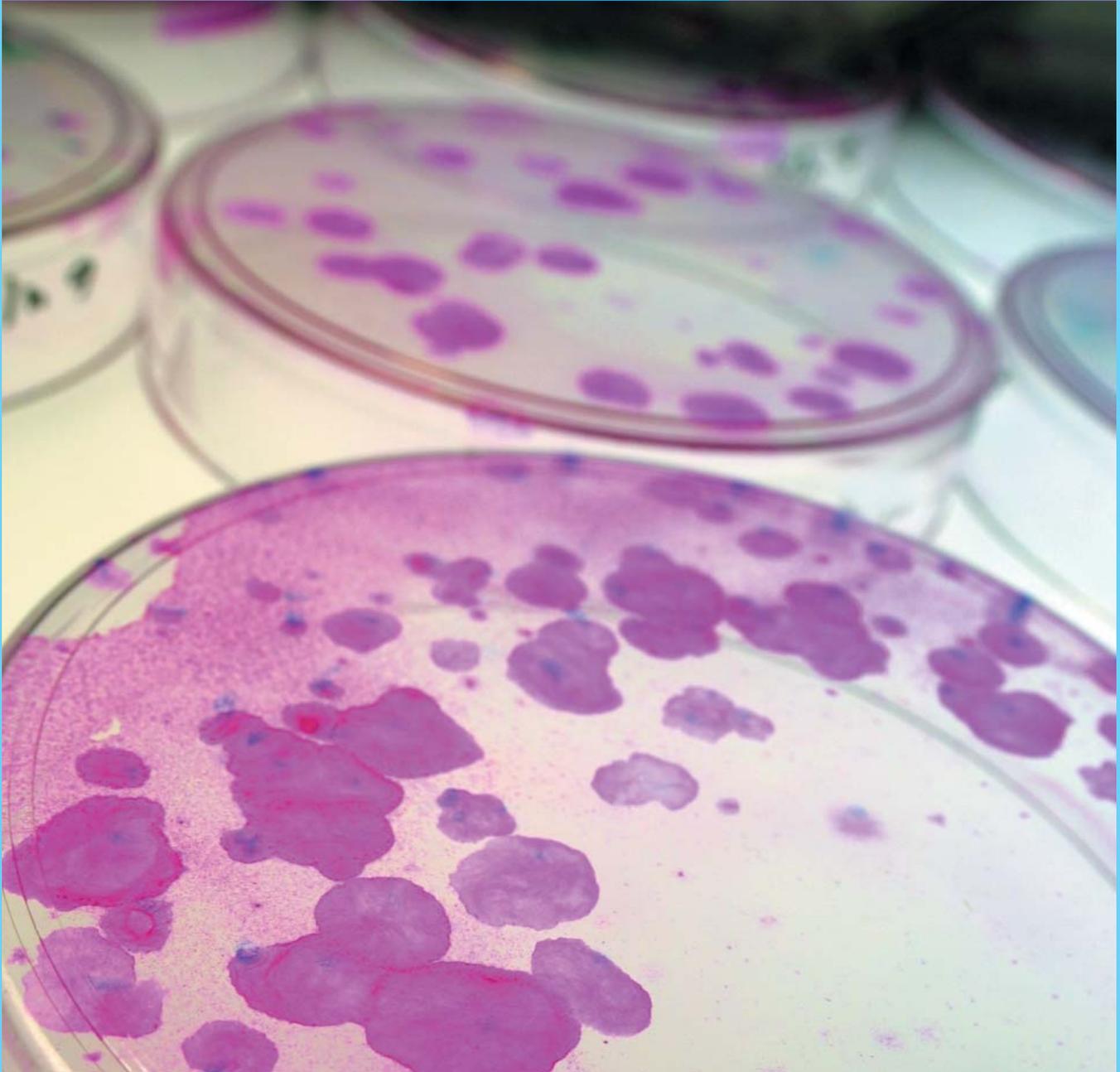
As a faculty member with expertise in cell biochemistry and biology, Dr. Simon frequently lectures in the Oral Biology curriculum as well as in several post-doctoral programs. Her research experience has also led to formal and informal collaborative research projects with other dental school faculty in such areas as epithelial gene therapy, wound healing, squamous cell cancer, and mucosal cell/connective tissue interactions.

Her laboratory is currently studying retinol metabolism in skin, nonviral methods for gene transfer to keratinocytes, stem cells in epidermal differentiation, and the treatment of destructive skin disorders. The National Institutes of Health, the Department of the Army, New York State, and various commercial enterprises are among the sources of funding support.

Through continued research such as that being conducted in the laboratories of the Living Skin Bank, better and more rapid methods will be found for the treatment of epidermal wounds. In addition, through a more complete knowledge of the nurturing interactions between epithelium and connective tissue, new insights into the development and treatment of oral squamous carcinoma and other mucosal diseases will be revealed. ■

STONY BROOK DENTISTRY

TODAY



Living Skin Bank: A Promise Fulfilled

Page 8

Shinnecock Partners in Health • 4

A Translational Research Leader • 5

Gene Transfer Breakthrough • 7

Dr. Kleinberg's Lifelong Study • 10



Going Back to Our Roots • 12

Meeting the Needs of the Elderly • 15

Oral Cancer Screening Event • 17

Meet Dean Ira B. Lamster • 18