IN THE SPOTLIGHT

In the fall and winter of 2005, P&G Beauty scientists participated in several global medical meetings presenting new dermatological research in areas such as dandruff and anti-aging. Through these global conferences, P&G Beauty was able to reach a worldwide audience to present and discuss recent cosmetic technologies with influential scientists and thinkers from around the world.

- At the Asian Congress of Dermatology in September 2005, Dr. Jim Thompson presented the latest findings on aminopeptides as an anti-aging active ingredient.
- In October 2005, Dr. Paul Matts presented new data on chromophore mapping at the 14th Congress of the European Academy of Dermatology and Venerology (EADV). Dr. Matts spoke on chromophore mapping and SIAscope imaging technology which, for the first time, is able to reveal how specific light-absorbing molecules in our skin change over a lifetime to make us look the age we do. Dr. Matts also delivered the keynote address at the Society of Cosmetic Chemists meeting in December.
- Dr. Thomas Dawson presented new data on the etiologic model for seborrheic dermatitis at the Congress of the EADV. Dr. Dawson's presentation was part of the panel symposium on Diagnosis and Therapy of Hair and Scalp Disorders.
- Dr. James Schwartz presented the keynote speech, titled "The Etiology of Dandruff and Scalp Seborrheic Dermatitis," at the inaugural Chinese Dermatologist Association Meeting in Beijing on December 10, 2005. Additionally, Dr. Schwartz presented a satellite symposium where he discussed a breakthrough potentiated pyrithione zinc technology being launched in a new anti-dandruff shampoo.

FAST FORWARD

Imagine a sunscreen that not only protects your skin from hyperpigmentation or darkened spots from the sun, but also reduces the appearance of existing pigment spots and tone unevenness from previous ultraviolet (UV) exposure. That future is closer than it seems as new technology for improving hyperpigmentation will soon be appearing in facial moisturizers. Scientists at P&G Beauty have identified a new active ingredient – N-acetyl glucosamine – which in small-based clinical testing has been shown to reduce the appearance of hyperpigmentation gently and without irritation. And the combination of the anti-aging workhorse niacinamide and N-acetyl glucosamine significantly reduced the spot area of hyperpigmentation as assessed by quantitative image analysis better than niacinamide alone. Skin care products featuring this new breakthrough technology to improve unevenness of skin tone resulting from sun exposure are just around the corner.

DID YOU KNOW?

P&G Beauty scientists presented over 30 technical posters at the 2006 American Academy of Dermatology meeting in San Francisco and the 2005 European Academy of Dermatology and Venerology meeting in London. This extensive research ranged from cleansing to anti-aging to the etiology of dandruff, and lays the groundwork for ongoing innovative product development.

P&G BEAUTY SCIENCE

P&G Beauty Science has more than 1,800 scientists and technical employees working at nine global technical centers with an unparalleled commitment to technology development. Company scientific efforts have resulted in over 3,500 active beauty care patents. This allows P&G to develop products uniquely suited for different types of hair and skin, and tailored to different cultures and climates. P&G scientists are constantly seeking new ways of turning inspiration into innovation.

P&G Beauty sells more than 130 different brands in over 180 countries worldwide that touch and improve lives daily. P&G Beauty had more than $19 billion in global sales in fiscal year 2004/05, making it one of the world's largest beauty companies. The global leading beauty company at mass, P&G Beauty brands include: Pantene,® Head and Shoulders,® Olay,® Max Factor,® Cover Girl,® Gillette® Complete Skin Care for Men,® Always,® Joy,® Hugo Boss,® Wella,® Herbal Essences,® Clairol Nice 'n Easy® and SK-II.® Please visit **www.pg.com** for the latest news and in-depth information about P&G Beauty and its brands.

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P&G beauty

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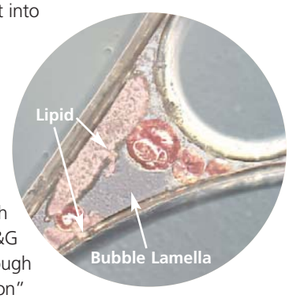
BREAKTHROUGHS: SCIENCE NEWS FROM P&G BEAUTY

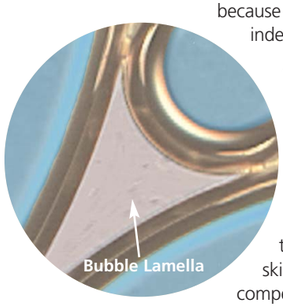
UNIQUE FORMULATION CLEANSES AND MOISTURIZES SKIN AT THE SAME TIME

While many factors can lead to dry skin, the most overlooked cause may be the first place you visit every day: the shower! In fact, 86 percent of dermatologists indicate frequent bathing as a source of dry skin, but in a survey of 1,000 women conducted by P&G Beauty, 74 percent of women didn't realize that prolonged exposure to water in the shower can dry skin. Water can deplete skin's natural mechanisms for holding moisture and ultimately lead to dry skin. P&G Beauty scientists set out to develop a body wash product that could moisturize, provide an exceptionally rich, creamy lather, and protect skin from future dryness.

Breakthrough Technology Wraps Skin in "Ribbons"

While the goal may sound simple, the task was enormously challenging. Moisturizers, like petrolatum, form a protective layer on the skin to prevent drying effects. Traditional technology limits how much moisturizer can be put into a body wash, and demands that increases in moisturizer levels correspond to lather decreases. Many women desire high amounts of lather and moisturization from their cleanser, but most current moisturizing body washes aren't able to provide both benefits. Now, the scientists at P&G Beauty have discovered breakthrough patent-pending dual-stream "ribbon" technology that allows skin to be wrapped in a thick, creamy lather while providing outstanding moisturization – without any tradeoffs. Here's how it works:





Image, left: Large particles of moisturizers being carried between each lather bubble of the ribbons moisturizing body wash. Image, right: Lather from the leading competitor moisturizing body wash.

- **A Unique Formulation**: The body wash includes two separate "ribbons" or phases: a cleansing ribbon and a moisturizing ribbon, which is infused with petrolatum – the top dermatologist-recommended moisturizing ingredient.

What's Inside

- **Dual-Stream "Ribbon" Technology**: A unique patent-pending process fills product bottles with both ribbons that sit side by side without interacting until mixed with water. This activates the cleansing ribbon, which carries the moisturizers from the moisturizing ribbon and allows them to wrap around skin and protect it from the drying effects of water.
- **The Result**: Dual-stream "ribbon" technology allows the moisturizing ribbon to provide excellent moisturization and luxurious lather because the two ribbons act more independently with better results.

"Prolonged exposure to water can be drying for skin, so it's important to protect skin while in the shower," said Dr. Karl Wei, Principal Scientist with P&G Beauty. "Breakthrough dual-stream 'ribbon' technology allows the moisturizing ribbon to wrap skin in more moisturizers than any competitive body wash and help stop dry skin before it starts. At the same time, the cleansing ribbon provides lots of rich, creamy lather that pampers as it cleanses."

Looking at the Lather

By magnifying lather bubbles, P&G Beauty scientists saw how lather carries moisturizers to the skin. Large particles of moisturizers found between each lather bubble of the dual-stream product deliver

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significantly higher moisturizers to skin than the leading moisturizing body wash. These moisturizers wrap the skin in hydration and protect it from the drying effects of water.

The moisturizing ribbon visibly improves dry skin. In a 21-day study, P&G Beauty scientists found that the new dual-stream product improved visible dry skin, increased stratum corneum hydration and improved barrier function significantly better than traditional body wash plus out-of-shower lotion.

Karl Wei, Ph.D., Principal Scientist with P&G Beauty, was instrumental in developing the "ribbon" technology.

SKIN TONE STUDY ADDS A NEW WRINKLE TO HUMAN PERCEPTION OF AGE

A new study reveals what cues the human eye looks for to evaluate age – with surprising results. Wrinkles are no longer the only determining factor in giving away a person's age. Skin tone alone can impact a woman's perceived age too.

Evolutionary biologists have long studied facial preferences in regards to human mate choices. Many studies detail the impact of facial characteristics such as symmetry, but recent scientific research sponsored by P&G Beauty examined the perception of color distribution on facial skin.

Using digital photos of women aged 10-70, scientists Karl Grammer and Bernhard Fink created 169 3-D facial forms that varied only in terms of skin color distribution. Other age-defining features such as facial furrows, lines and wrinkles were removed. Over 400 subjects rated these faces for perceived age, health and beauty attributes. The faces with the most uniform color distribution, or most even skin tone, received significantly higher ratings for attractiveness and health, and were judged to be younger in age.

"Until now, skin's homogeneity and color saturation received little attention among behavioral scientists. This study helps us better understand that wrinkles are not the only age cue. Skin tone may be a major signal for mate selection and attractiveness, as well as perceived age," says Dr. Karl Grammer, Founder and Scientific Director of the Ludwig-Boltzmann-Institute for Urban Ethology, University of Vienna.

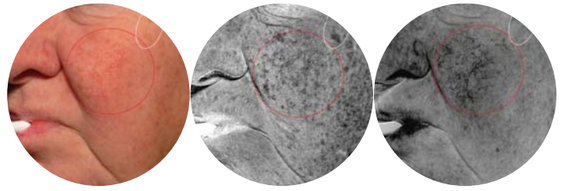
The above images depict three women's skin tones on the tested facial form. The biological ages range from 12 to 55.

"Whether a woman is 17 or 70, the contrast of skin tone plays a significant role in the way her age, beauty and health is perceived," says Dr. Paul Matts, Principal Scientist at P&G Beauty. "Skin tone homogeneity can give visual clues about a person's health and reproductive capability, so even skin tone is considered most desirable. In this study, we found cumulative UV damage influences skin tone dramatically, giving women yet another reason to prevent UV-related skin damage or try to alter uneven skin tones."

Skin color distribution, independent of facial form, seems to have a major influence on the perception of age, attractiveness and health, perhaps subconsciously influencing mate choice. These findings stress the importance of skin health, especially as related to photodamage, or lifetime sun damage.

STRANGELY BEAUTIFUL

Chromophores, light-absorbing molecules below the skin's surface, are responsible for coloration and appearance of skin. The three types of chromophores – collagen, melanin and hemoglobin – are crucial in determining perceived age. P&G Beauty scientists collaborated with Astron Clinica to develop a new technique to quantify the contribution of individual chromophores on skin appearance. Full-face Non-contact Chromophore Mapping using SIAscopy™ (NCS) generates melanin and hemoglobin parametric concentration maps. These maps present clinicians and researchers with a powerful new tool to evaluate hyperpigmented facial lesions and ultimately develop new therapies to treat them.



Image, left: Original image. Image, center: Corresponding melanin map. Image, right: Corresponding hemoglobin map.

LAB NOTES

With dozens of sunless tanners available, many women forget that the pigments in tanners don't protect skin from harmful UVA/UVB sun damage. Most sunless tanners lack adequate UVA/UVB protection. P&G Beauty scientists have developed a daily facial moisturizer that combines a touch of sunless tanner with SPF 15, enabling women to achieve a safe sun-kissed glow. Combining moisturizing levels of glycerin with Dihydroxyacetone (DHA), a skin color-enhancing ingredient, helps bind water to the upper layers of skin and prevents the DHA from collecting in uneven patches on skin, eliminating the potential for streaking.

GLOBAL BEAUTY

Women around the world are constantly striving to protect their hair from loss and breakage. In fact, Chinese women have long believed that eating walnuts and sesame seeds or applying a mixture of raw egg whites and vinegar directly to the hair can strengthen it. P&G Beauty scientists, in collaboration with the dermatology department at the Beijing University First Hospital, tested this theory by evaluating hair when using natural remedies versus a new P&G Beauty shampoo with amino acids and silicone. Results showed that the shampoo significantly improved hair dryness, dullness and combing ease and had superiority versus traditional hair care remedies.

CLOSE-UP

Free radicals are created when skin is exposed to everyday environmental assaults such as pollution or sunlight. This process damages skin over time, resulting in everything from an aged appearance to skin cancer. P&G Beauty scientists have created a topical antioxidant formula that may help mitigate free radical damage, and they have captured some of the first images to show the therapeutic effect of the formula.

Partnering with the University of California, P&G Beauty scientists conducted a study in which skin-equivalent tissue samples received an application of the antioxidant formulation or placebo. Scientists exposed both sets of tissue to UVA/UVB radiation, and measured free radical activity with a 2-photon fluorescence microscope. Free radical activity was reduced by 43 percent with the use of the antioxidant formulation, indicating that products containing the formulation could help spare skin from UV-induced free radical damage.

Image, top: Placebo-treated surface with greater free radical damage.
Image, bottom: Full antioxidant formulation protected tissue from free radical damage.

MYTHS AND FACTS

- **Dry skin is only an issue during the winter.**
  MYTH – P&G Beauty scientists recently conducted research among women who exposed their skin to extreme warm and cold environments to test a new moisturizing body wash. Both groups showed significant improvement in skin moisturization, demonstrating that skin benefits from using petrolatum-depositing body wash year-round.

- **Not all dry skin sufferers require the same level of moisturization.**
  FACT– P&G Beauty scientists conducted a habits and practices study among over 500 women. Participants segmented themselves based on perceived level of skin dryness and by the level of moisturized skin they preferred. The results led to developing three versions of a customized petrolatum-depositing body wash to meet consumers' distinct moisturizing needs and expectations.