



Department of Dermatology Receives \$1M Gift to Advance Clinical Trials in Alopecia Areata

Locks of Love: From Patient to Philanthropist

Madonna Coffman knows all too well the crushing social and emotional impact of alopecia areata (AA). She suffered from the disease as a young adult, and then her daughter was affected years later. Watching her child's brave struggle with AA inspired her to found Locks of Love, a Florida-based nonprofit organization that provides hairpieces to financially disadvantaged children in the U.S. and Canada suffering from long-term medical hair loss.

"We decided to support Dr. Christiano's research because she has obviously found the key to alopecia, and we can now use that information to find a cure," says Ms. Coffman. Locks of Love's \$1 million gift to Columbia University is the organization's largest single gift in its 14-year history.



Drs. Julian Mackay-Wiggan, Raphael Clynes and Angela Christiano

The search for treatments for alopecia areata (AA), a devastating autoimmune form of hair loss (alopecia), took a major step forward last July when Columbia Department of Dermatology researchers, led by Angela Christiano, Ph.D., the Richard and Mildred Rhodebeck Professor of Dermatology and Professor of Genetics & Development, announced in the journal *Nature* the discovery of at least eight genes that contribute to the disease.

Following the publication of that groundbreaking finding, the Department received a three-year, \$1 million gift from Locks of Love (see sidebar) that will greatly accelerate the development and test-

ing of new AA therapies.

There is currently no cure or reliable treatment for AA, which is estimated to affect 5.3 million Americans.

"In recent years, a number of highly effective medications have been developed for the treatment of autoimmune diseases such as rheumatoid arthritis and psoriasis. With this generous grant, we can now determine whether these drugs will also work in the treatment of AA and enhance our efforts to add new medications to the clinical pipeline," says Julian Mackay-Wiggan, M.D., Assistant Clinical Professor of Dermatology and Director of the Clinical Research Unit.

To this end, the Department plans

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Chairman's Message: Giving Back



We are living in challenging economic times, and the support for biomedical research is no exception. Today, the National Institutes of Health, the world's largest supporter of biomedical research, currently funds a mere 8 to 10 percent of study proposals, leaving countless worthwhile projects behind. All of which is to say that private philanthropy is more critical than ever for sustaining the re-

search mission of academic departments.

As this issue of Skintouch illustrates, our friends and benefactors have stepped up to the challenge, giving generously to support our ground-breaking research. First and foremost among them are Florence and Herbert Irving, whose generosity to the Department – stemming in part from Herb's experience as a patient here – knows no bounds (see below).

A New Home for Dermatology Research

On February 9, 2011, faculty, friends, and supporters of the Department of Dermatology gathered to celebrate the opening of the Florence and Herbert Irving Center for Dermatology and Skin Cancer Research.

The state-of-the-art research center brings together all of the Department's basic research scientists under one roof, and was made possible by a \$1 million gift from Mr. and Mrs. Irving, long-time Columbia benefactors. "Probably no single couple has had more influence on changing the architectural map of Northern Manhattan and this campus than Florence and Herbert," said David R. Bickers, M.D., the Carl Truman Nelson Professor and Chairman of Dermatology. "Their heart and soul are invested in this institution."

The 15,000-sq.-ft. center, will support the research of five principal investigators: Angela Christiano, Ph.D. (the center's director), Julide Celebi, M.D., Arianna Kim, Ph.D., Ellen Lumpkin, Ph.D., and David Owens, Ph.D. Their wide-ranging research includes studies of the neurobiology of the skin, the molecular

I am also enormously grateful for the generosity of Locks of Love, driven by its president, Madonna Coffman. Her daughter's experience with hair loss moved her to underwrite our pioneering research in alopecia areata, a devastating form of hair loss that attracts too little funding, public or private.

I am heartened to report that this spirit of giving back is mirrored by our faculty and staff, as the stories in this edition demonstrate. Dr. Angela Christiano's own struggle with hair loss, for example, drives her passion to cure alopecia. Luis Olivera's unwavering dedication to excellence fuels his commitment to training the next generation of medical assistants. And then there's our newest faculty member, Dr. Christine Lauren, whose experience of giving birth to an extremely premature baby – expertly treated here at Columbia – motivates her good works as a clinician, researcher, and educator.

It's an honor to know and to work with these generous and highly committed individuals.

David R. Bickers, M.D.

Carl Truman Nelson Professor and Chairman



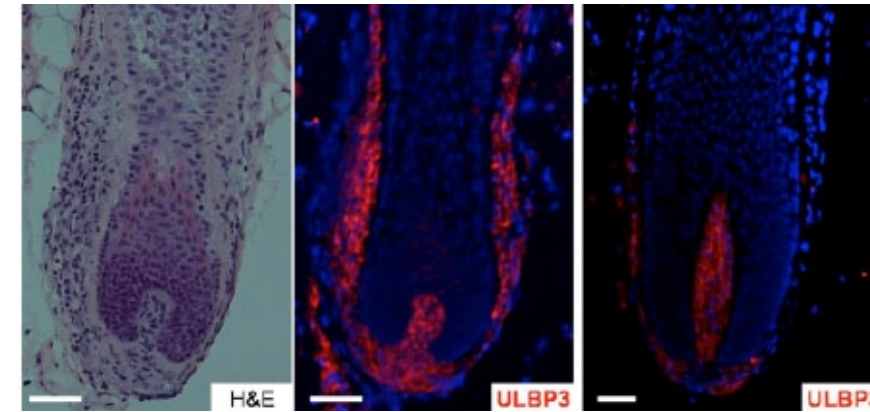
Dr. David Bickers, Herbert Irving, Florence Irving and Dr. Lee Goldman

mechanisms of hair loss, the genetics of melanoma, and the role of stem cells in skin cancer.

"There is every expectation that future discoveries made here will ultimately lead to more basic information about our organ of choice – the skin – as well as to translational applications for patients with skin cancer and other diseases," said Dr. Bickers.

Lee Goldman, M.D., dean of the College of Physicians & Surgeons, noted that the new center "demonstrates Columbia's commitment to advancing the science of dermatology, particularly skin cancer, one of the few cancers that has seen an increased incidence, even as deaths from many other cancers have finally begun to decline."

Alopecia Areata, from page 1



Hair follicles of an alopecia areata patient (left, center) and of a control individual (right).

to launch clinical trials of at least three medications, including abatacept (brand name Orencia), an intravenous drug that is approved by the FDA for treating rheumatoid arthritis. "We're optimistic that abatacept will also be effective in the treatment of AA, especially since it has already been shown to work in the mouse model of AA" notes Raphael Clynes, M.D., Ph.D., Associate Professor of Pathology, Medicine and Dermatology, a physician and basic scientist who is collaborating with Drs. Mackay-Wiggan and Christiano. "Abatacept is known to block the activation of T-cells, a type of immune cell that becomes overactivated in AA, leading directly to the destruction of hair follicles."

The researchers will also evaluate the effectiveness of a yet-to-be-named topical cream that inhibits the activity of cytokines, molecules that play a role in mediating the body's immune response. The drug has shown promise in relieving psoriasis, another autoimmune disorder.

Another trial will address the safety and efficacy of two doses of triamcinolone acetonide, which is administered intradermally (that is, by injection into the skin). Although the drug is widely used for AA, it has never been rigorously tested. They will also investigate the immunolog-

ic changes associated with the drug.

"We're very excited about this opportunity to bring new and better therapies to patients with AA," says Dr. Christiano, who herself suffers from AA. "Although hair loss is seen by many as a cosmetic disease, it can be quite devastating, emotionally and socially, especially for children as it causes them to lose their self esteem and, along with it, the ability to enjoy the activities of a normal, happy childhood. This is a tragic result for a person whose life is just beginning," she adds.

In addition to human clinical trials, the grant will indirectly support research into the basic biology of hair loss, which will help identify new targets for drug development. "The initial description of the genetic architecture will enable us to focus on specific molecular pathways in the T-cells and the hair follicles to gain a better understanding of the mechanisms that contribute to the disease," says Dr. Clynes.

"We are excited about Dr. Christiano's findings thus far and are confident we are close to even more breakthroughs," says Madonna Coffman, Founder and President of Locks of Love.

Raphael Clynes Joins Dermatology

The Department of Dermatology is pleased to announce the joint appointment of Raphael Clynes, M.D., Ph.D., as Associate Professor of Pathology, Medicine and Dermatology. He is the Assistant Director of the HLA and Cellular Immunology Clinical Pathology Lab and the Director of the Flow Cytometry Core in the Columbia Center for Translational Immunology.

A physician-scientist and cellular immunologist, Dr. Clynes studies the contributions of humoral immunity (antibodies) in health and disease. He is a graduate of the Massachusetts Institute of Technology and obtained his M.D.-Ph.D. at SUNY Stony Brook. Following training in internal medicine at Washington University and a hematology-oncology fellowship at Memorial Sloan Kettering Cancer Center, Dr. Clynes completed his post-doctoral studies at the Rockefeller University.

Dr. Clynes' research has shown immune complexes are important in the pathogenesis of lupus erythematosus and other autoimmune diseases. His work in antitumor antibodies established the concept that therapeutic antibodies in cancer work through engagement of Fc receptors and induce tumor immunity in treated patients.

Dr. Clynes has recently embarked on a new initiative in alopecia areata research, including investigations of the cellular, immunological, genetic, and epigenetic basis of hair loss (in collaboration with Dr. Angela Christiano) and of biomarkers for the clinical study of immune targets in alopecia (with Dr. Julian Mackay-Wiggan and Dr. Christiano).

A Conversation with our newest expert in contact dermatitis



Donald V. Belsito, Professor of Clinical Dermatology at Columbia University Medical Center, is a renowned specialist in contact dermatitis. A clinician as well as a researcher, he is a past president of the American Contact Dermatitis Society and a fellow of the American Academy of Dermatology. Dr. Belsito joined the Department of Dermatology on April 1st.

Q: What is contact dermatitis?

A: Contact dermatitis is a localized inflammation of the skin caused by direct contact with a foreign substance. There are two types, allergic contact dermatitis, in which the substance causes an immunologic reaction, and irritant contact dermatitis, in which the substance directly damages the skin.

Q: What are some common causes of contact dermatitis?

A: Probably the most common cause is poison ivy, during the summer months. We also see many cases resulting from exposure to the metal nickel, which is found in everything from jewelry to buttons to zippers. We discover new causes all the time – for example, temporary henna tattoos containing the dark hair

dye, para-phenylenediamine. The latest problem is cosmetics and over-the-counter products made from botanicals, which have become very popular.

Q: Botanicals are natural plant extracts. Aren't these safe?

A: Not necessarily. Just because something is natural doesn't mean that it's harmless. As I tell my patients, poison ivy is natural. Would you put that on your skin? The chemicals in these products vary widely, depending on what country they come from, when they are harvested and how the plants are processed.

Q: How do you keep up with all these trends?

A: I'm a member of the North American Contact Dermatitis Group, which consists of 13 specialists in the U.S. and Canada. We pool our data and communicate with one another regularly about new allergens, changes in incidence rates, and where exposures are occurring.

Q: How is contact dermatitis treated?

A: It can usually be treated with topical steroids. If it's a severe reaction, like poison ivy, systemic – that is, oral – steroids may be needed. Of course, the best treatment is to identify what you're reacting to and stay away from it. But that can be a dilemma in occupational cases where workers cannot avoid exposures and are not in a position to leave their jobs. Cosmetologists, who are exposed to hair dyes and other chemicals, are one example.

Q: Do allergy shots help in these cases?

A: No. It's not like food allergies or hay fever. There's no desensitization.

Q: You're mentioned on several "Best Doctors" lists. What qualities make for a good specialist in contact dermatitis?

A: One quality is the ability to recognize different patterns of contact dermatitis on the skin and have a sense of what substances might be the cause. It also helps to know a lot about many different occupations and what they expose people to. Finally, you have to be able to delve deeply into people's lives. I often ask patients to bring in the entire contents of their medicine cabinets so I can see everything they're putting on their skin. It's all about looking for clues and then doing patch testing to evaluate your hypotheses. There are more than 3,700 chemicals in the environment that can cause allergies, so it's impossible to test for all of them. This is an effective way to narrow down the possibilities.

getting it right: An Externship for Medical Assistants



Luis Oliverra, R.M.A., and two of his protégées, Jajaira Santana and Bianca Vargas.

As part of an academic medical center, the Department of Dermatology participates in the education of health-care professionals, from medical students to residents and fellows to attending physicians. For the last six years, the Department has also served as a training ground for a type of health-care worker you may not be as familiar with: medical assistants.

One of the fastest-growing occupations in health care, medical assistants perform administrative and clinical tasks to keep clinical practices running smoothly and efficiently, such as assisting doctors in exam rooms, filing records, scheduling appointments, and arranging laboratory services.

To round out their technical medical training, medical assistants must complete a 180-hour clinical externship,

which is where the Department of Dermatology at Columbia comes into the picture. Each year, it hosts about ten externs, mostly from the Sanford-Brown Institute.

The Dermatology externship is the brainchild of Luis Oliverra, R.M.A., the Department's senior medical assistant. "I started the program because I was disappointed in the way I was treated as an extern," he says. "Everybody kept their distance and wouldn't give me any time."

That's hardly the case at Columbia, where Mr. Oliverra makes sure his charges get intensive, hands-on learning experiences and regular tutorials in all things dermatologic. "I'm on them every day," says the former marine and drill instructor. "They won't leave here until they get it right."

"It's great to watch the students develop," adds Robert Walther, M.D., Clinical Professor of Dermatology and Director of Clinical Services. "They start off very timidly. But under Luis' guidance, they grow very confident."

The arrangement benefits both the students and the Department, which has hired numerous externs, including four currently working for the Department. "What a great opportunity to not only train people, but also to get a feel for who would work well with us," says Dr. Walther. "We're a growing department and always looking for top-notch people."

David Bickers, M.D., Chairman of Dermatology, adds, "People like Luis are the unsung heroes of the Department. They are essential to the support of our academic mission."

Our New Addition to Pediatric Dermatology

Christine Lauren, M.D. places great value on formal training. A P&S graduate, she completed her residency and chief resident year in pediatrics at the Children's Hospital of Philadelphia. She returned to Columbia to complete a residency in Dermatology and now nears the end of her Pediatric Dermatology Fellowship.

However, her most profound educational experience began the day her child was born prematurely, weighing only one pound. Her daughter was treated in the neonatal intensive care unit at Columbia. The experience made Dr. Lauren aware of all the things parents of sick children go through and she has

become a better physician from it. Fortunately, her daughter is now thriving, and will be entering kindergarten in September.

Dr. Lauren will join the full-time faculty this July as an Assistant Professor of Clinical Dermatology and Clinical Pediatrics. As a member of the Pediatric Dermatology Educational Interest Group, she plans to continue her work with medical education. She is also working on a collaboration with the neonatal intensive care unit on an ongoing research project aimed at improving wound healing in preterm infants.

Teledermatology: Expert Medical Care Just a Mouse-Click Away

These days it's possible to do just about everything on the Internet, from chatting with friends to shopping for clothes to filing income taxes. As of July, military veterans in our area will be able to add an intriguing new activity to this list: a virtual visit to the dermatologist.

"When a patient needs a dermatology consult, a technician at the local VA clinic will take high-resolution digital photos of the patient's rash or lesion," explains Jessica Newman, M.D., M.P.H., Chief of the Dermatology Department at the VA and Assistant Clinical Profes-

sor of Dermatology at Columbia. "Once the images are uploaded to the patient's electronic medical record, we'll get a notification here at the Bronx VA that a consult is needed. Within a day or so, we'll review the images and the patient's history, make a diagnosis, and provide the referring physician with detailed written recommendations for care."

Patients with certain conditions, such as potentially cancerous lesions, may still have to come to the Bronx VA for diagnosis and treatment. "But we an-

icipate that we'll be able to direct the treatment of most patients virtually with the same standard of care," says Dr. Newman. According to the American Academy of Dermatology (AAD), studies have shown that teledermatology leads to clinical outcomes comparable to that of face-to-face consultations. Teledermatology offers several advantages. For patients, it means not having to travel for specialist visits – no small benefit for this group of veterans, many of whom are old and infirm or live hours away from the Bronx. "In addition, the program will allow the veterans to get their care from their primary care physician, with whom they already have a rapport," says Dr. Newman.

Columbia's residents – who will take a lead role in the consultations, under Dr. Newman's close supervision – also stand to benefit from the new program. "It's yet another way we can teach residents how to make diagnoses and devise treatment plans," she says. "Also, it will help them to refine their interpersonal and communication skills as they partner with the community physicians."

Training in teledermatology is not yet required by the American Academy of Dermatology (which sets the standard for residency training in the field), but many employers are already looking for dermatologists with this cutting-edge skill.

Finally, the program will benefit the local VA physicians. "By treating patients under our guidance, primary-care doctors will be able to broaden their clinical skills and do even more for their patients," says Dr. Newman.



Resident Doctors Mina Yassaee and Vishal Patel 'virtually' examine a patient as Dr. Jessica Newman looks on.

This innovative clinical service comes courtesy of the Department of Dermatology at Columbia University, and one of its primary sites for residency training, the James J. Peters Veterans Administration Medical Center in the Bronx. Together, they have created a "teledermatology" program that, using communications technology and digital photography, will allow many veterans to be evaluated by a Bronx VA dermatologist without venturing beyond their local VA outpatient clinic, sometimes up to 75 miles away.

Dr. Newman looks on. Training in teledermatology is not yet required by the American Academy of Dermatology (which sets the standard for residency training in the field), but many employers are already looking for dermatologists with this cutting-edge skill.

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Events

2010-2011 Dean's Distinguished Lecture in the Clinical Sciences

Dr. Angela Christiano, the Richard & Mildred Rhodebeck Professor of Dermatology and Genetics & Development, Vice Chair for Research in the Department of Dermatology, and Director of the Center for Human Genetics at CUMC, was selected to present the 2010-2011 Dean's Distinguished Lecture in the Clinical Sciences on Dec. 16, 2010. The Dean's Distinguished Lectureship, founded in 1981, is designed to showcase the world's leading basic scientists, clinicians, and humanistic scholars, all of whom have made significant and outstanding contributions to their respective fields.

Dr. Christiano spoke about epidermolysis bullosa, a rare, genetic skin disease that causes the skin to blister upon the slightest trauma, and the genetics that have revolutionized how the disease is being diagnosed and treated.

Dr. Christiano presented the Dean's Distinguished Lecture on December 16, 2010.



Save-the-Date

Babies Hospital Alumni Association Day

Please mark May 6, 2011, on your calendars for a lecture by Dr. Maria Garzon, Professor of Clinical Dermatology and Clinical Pediatrics, taking place on Babies Hospital Alumni Association Day at the Morgan Stanley Children's Hospital of NY-Presbyterian, Tower 103 at 3959 Broadway. Dr. Garzon's topic: "Pediatric Hemangiomas: What's New and What's True."

May Is National Skin Cancer/Melanoma Awareness Month

Skin cancer is one of the most common types of cancer, with over one million people diagnosed each year. In an effort to educate patients about the importance of annual skin cancer screenings and sun protection, Columbia Dermatology is offering free skin cancer screenings during the month of May. See below for dates.

May 4: Columbia Dermatology and Columbia University will once again participate in the Road to Healthy Skin Tour sponsored by the Skin Cancer Foundation. Dr. Monica Halem and a team of residents will provide free skin cancer screenings to Columbia University students on College Walk inside a 38-foot customized RV.

May 10: Columbia Dermatology will participate in the Annual Melanoma Skin Cancer Protection and Prevention Program sponsored by the American Academy of Dermatology. Free skin cancer screenings will be available from 2:00 pm to 5:30 pm at Herbert Irving Pavilion on the medical center campus and the East 60th Street facility. For more information please contact 212-305-3625.

Road to Healthy Skin Tour medical RV parked on College Walk.





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