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UCLA DERMATOLOGY
WINTER 2012 | VOLUME 3

Fighting Acne

UCLA Dermatology part of groundbreaking study that reveals a new weapon against America's most common skin disorder

According to the American Academy of Dermatology, acne is the most common skin disorder in the United States, affecting 40 to 50 million Americans. It is an epidemic that surprisingly lacks very effective and safe prevention and treatment, but the innovative and talented researchers at UCLA's Division of Dermatology are helping to change that.

Researchers at the division are leading the battle with a new understanding of the skin disorder.

In September, the American Society for Microbiology's mBio published findings by Dr. Robert Modlin's laboratory and a team of collaborators at UCLA and the University of Pittsburgh in a paper entitled, "Propionibacterium acnes Bacteriophages Display Limited Genetic Diversity and Broad Killing Activity against Baterial Skin Isolates." The groundbreaking study proposes a new weapon against acne—viruses—as a way to attack the bacteria on the skin that causes breakouts since conventional treatments such as antibiotics and other prescription acne treatments have proven to be less effective over time.

"Acne affects millions of people, yet we have few treatments that are both safe and effective," said Division of Dermatology Chief Robert Modlin, a co-author of the paper. "Harnessing a virus that naturally preys on the bacteria that cause pimples could offer a promising new tool."

And the outlook is, indeed, promising. The study has already been recognized in the scientific community and highlighted by prominent media outlets globally including Time magazine, the Los Angeles Times, WebMD, BBC News and Smithsonian magazine. Dr. Modlin's lab, which began investigating P. acnes bacteriophages in 2007, is encouraged by the support.

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>
> *– Dr. Robert L.Modlin*

Letter from The Chief

by Dr. Robert L. Modlin

During the past 20 years during which I have served as Chief of Dermatology at UCLA, the growth of our program has been remarkable in all areas: clinical, education and research. Our division has created a unified and talented team, and I am very optimistic about the future.

I want to applaud our faculty for all of their contributions thus far, particularly those who are expanding beyond clinical care to give our patients the dedication and unique practice that they deserve. One faulty member, Ki-Young Suh, M.D., is highlighted in our cover story about her treatment of infants with infantile hemangioma and how their families have overcome the stress and risks of treatment with Dr. Suh and her staff's help. Another faculty member, Carolyn Goh, M.D., is featured in a story about patient outreach for those in the community that deal with hair loss.

On the education front, we have hired eight new full-time clinical educators and one part time. This year's Newcomer lecture was delivered this past April by distinguished guest, Jean Bolognia, M.D. Her presentation, entitled "Skin Signs of Monoclonal Gammopathies," gave an overview of skin disease related to monoclonal gammopathies and brought together key aspects of clinical care, research and education that represent the unified vision of Dermatology that Victor D. Newcomer, M.D. envisioned. Dr. Bolognia inspired our residents, clinical educators and investigators with her knowledge and vision. Additionally, this year's resident match is complete, and we are proud to welcome to our 2013 program three of the top applicants in the country.

Our research has grown as well. Roger Lo, M.D. was honored by election as a member of the prestigious American Society for Clinical Investigation. His laboratory continues to be at the forefront of melanoma research with important strides in understanding B-RAF inhibitor resistance mechanisms, its toxicity, and its combination with other agents to augment patient response and reduce suffering. Jenny Kim, M.D.'s laboratory continues to study skin immunity and defense mechanisms while actively collaborating with multi-disciplinary groups on campus to advance applied sciences in dermatology. Lloyd Miller, M.D. and his laboratory are developing innovative immunomodulatory and vaccination strategies to provide a therapeutic advantage against skin infections caused by staph (Staphylococcus aureus) and MRSA (methicillin-resistant Staphylococcus aureus). As I discussed in my Dermatology Grand Rounds lecture in January, our lab has published a paper in Nature Medicine, which provides a new strategy for vaccines through the induction of a novel mechanism and dendritic cells by a new cytokine, interleukin-32.

We've achieved so much in the past two decades, and we will have some events in the coming year to highlight some of our outstanding program, achievements and faculty. Stay tuned for the UCLA Division of Dermatology Evening Grand Rounds, as well as our upcoming Research Symposium. Also keep an eye out for our Fall 2012 newsletter to see further updates. I believe that the successful growth of the division over the last 20 years is due to our teamwork. We do not work in separate units; we have an integrated approach in which clinician educators and physician scientists work together to achieve common goals.

Robert L. Modlin MD

Robert L. Modlin, M.D.
Klein Professor of Dermatology,
Distinguished Professor of Medicine and
Microbiology, Immunology and Molecular Genetics,
Chief, Division of Dermatology,
Vice Chair for Cutaneous Medicine and Dermatological Research,
Department of Medicine

New Faculty

Paul C. Levin, M.D. returns to UCLA as an associate clinical professor after 13 years in Boston, where he Paul C. Levins, M.D. returns to UCLA as an associate clinical professor after 13 years in Boston, where he served as faculty at his alma mater, Harvard Medical School, and staff at Massachusetts General Hospital. Dr. Levins first joined UCLA's Division of Dermatology in 1993 as an assistant professor in medicine and dermatology. He earned his medical degree at the University of Cincinnati's College of Medicine and completed his dermatology residency and fellowship at Harvard Medical School and Massachusetts General Hospital. At UCLA, Dr. Levins will specialize in medical dermatology, as well as medical student and resident education. "I am excited to rejoin the growing clinical and educational mission of the Division of Dermatology under Robert Modlin and the Department of Medicine under Alan Fogelman," he says.

Scott Worswick, M.D. returns to UCLA as a clinical instructor of Health Sciences. Originally from Santa Monica, Dr. Worswick graduated from Princeton University before earning his medical degree at USC's Keck School of Medicine. He completed his residency at UCLA's Division of Dermatology before joining the faculty in August. He also completed an internship at California-Pacific Medical Center in San Francisco, where he focused on preliminary medicine for a year. "I chose to stay at UCLA because I am interested in academic medicine and teaching, and I think the program here is great," he says. Dr. Worswick specializes in hospital dermatology, rheumatology dermatology, transplant dermatology, and infectious disease dermatology.

Jenny Hu, M.D., M.P.H. returns to UCLA as a clinical instructor in Health Sciences after completing her medical education, internship, residency, and fellowship with the Division of Dermatology. She specializes in Mohs micrographic surgery for skin cancers, lasers and cosmetic surgery, and has been instrumental in the division's expansion to UCLA Health System's new Westlake Village location. "I have been with UCLA Dermatology since my residency," she says. "The faculty and staff are wonderful, so I know I would be working with great colleagues and staff!"

Sarika Banker, M.D. joins UCLA as a clinical instructor of Health Sciences specializing in medical dermatology. Dr. Banker graduated from New York University before earning her medical degree at Albert Einstein College of Medicine. She completed her medical training at Albert Einstein College of Medicine and New York Hospital Queens in Flushing, NY.

Kristy Fleming, M.D. joined UCLA as clinical instructor of Health Sciences in July. Dr. Fleming graduated summa cum laude from the University of San Francisco before earning her medical degree at the University of California, Irvine's School of Medicine. She completed her residency at Baylor College of Medicine. "I chose UCLA because I love the challenge of caring for complex medical dermatology patients and I want to continue to expand my knowledge," she says. "I also enjoy teaching and learning from our residents and medical students".

Sarah Gee, M.D. joins UCLA as a clinical instructor of Health Sciences. Originally from Illinois, Dr. Gee graduated magna cum laude from Princeton University. She earned her medical degree from University of Southern California's Keck School of Medicine. She completed her medical training at Cedars-Sinai Medical Center as an intern and Harvard Medical School as a resident. "I chose UCLA because there is no better place to work and learn from the best and brightest dermatologists in Los Angeles," she says.

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"We are very pleased with the recognition that our work has received," said Laura Marinelli, Ph.D., first author and post doctoral researcher in dermatology at UCLA. "We are currently focusing our efforts on moving forward with these phages in terms of exploring and exploiting their therapeutic potential. In this regard, it is quite encouraging that the response from the scientific community and from the public has been so positive. We are very fortunate to be able to work in such a dynamic and stimulating environment."

Dr. Modlin's lab team now hopes to isolate the active protein from the P. acnes virus, known as endolysin, and test whether it is as effective as the whole virus in killing acne bacteria. If tests are successful, Dr. Modlin's team will study the compound's safety and effectiveness on people affected by acne. "A treatment based on purified phage endolysin would allow the specific targeting and killing of acne bacteria on the skin of those afflicted by this disease," explains Marinelli.

Associate Professor of Clinical Medicine Jenny Kim, M.D., Ph.D., who also helped co-author the published study, is contributing to the fight against acne through UCLA's Clinic for Acne Rosacea and Aesthetics (CARA). As co-director of CARA, along with Health Sciences Assistant Clinical Professors Christina Kim, M.D. and Ki-Young Suh, M.D., Dr. J. Kim is ensuring the best possible care for patients affected by acne and rosacea, as well as any scarring or discoloration that can result from these conditions.

CARA offers a wide range of medical, surgical and cosmetic therapies that utilize cutting-edge technology and resources in a world-renowned tertiary care center. Dermatologists are able to work with other specialists through the UCLA medical network such as top-notch nutritionists, pediatricians, endocrinologists and plastic surgeons to ensure individualized treatments suited for every patient's age and lifestyle.

In addition to providing excellent care to acne patients, the CARA team is committed to their own clinical and basic research initiatives made possible by donations and grants from the National Institutes of Health and Dermatology Foundation. In addition to their contributions to the recent acne bactericphage study, The team is currently researching the effect of Omega-3 on acne and acne therapy, as well as developing a mobile device application that helps patients communicate with dermatologists and manage acne. The program will increase access to care and limit the need for in-person office visits.

For more information on the division's acne initiatives and care, please visit **www.derm.med.ucla.edu** or call (310) 825-6911.

New Westlake Village Clinic Offers Convenience and Five-Star Care

In July, UCLA's Division of Dermatology celebrated its expansion to Westlake Village as part of the grand opening of UCLA Health System's newest medical facility at 1250 La Venta Drive.

Seeking to accommodate patients throughout the Conejo Valley, Las Virgenes, Ventura County, and the San Fernando Valley areas, UCLA Health System Westlake Village is a 28,000-square-foot primary and specialty care office with 12 board-certified physicians in a variety of disciplines, including general internal medicine, family medicine, cardiology, endocrinology, rheumatology, as well as medical and cosmetic dermatology.

The expansion to Westlake Village marks the second of four new dermatology clinic openings since May to accommodate patients throughout the Southern California area. In addition to UCLA's top-notch medical care and service, the new location boasts ample parking and appointment availability.

"It's exciting to be part of UCLA's expansion into the 101 corridor and it's outreach to a broader population," said Jenny Hu, M.D., M.P.H., health sciences clinical instructor and primary dermatologist at the Westlake Village clinic. "It's welcoming when so many patients have come through the door with smiles, telling me how happy they are that UCLA has finally made it out here."

In May, the division added a cosmetic dermatology clinic to its Santa Monica location, which offers a variety of procedures such as botox, fillers, chemical peels, laser hair and tattoo removal, and sclerotherapy. A new cosmetic clinic is also slated to open at the division's Westwood location next year. In December, medical and cosmetic clinics will be available at UCLA's new Thousand Oaks facility.

> "It feels good to be able to make it easier for these patients to have access to the UCLA system."
>
> *– Dr. Jenny Hu*

For more information on UCLA's Westlake Village location, go to **www.uclahealth.org/WestlakeVillage.**

Robert Modlin, M.D., 20 Years as Chief

From the start, Robert L. Modlin, M.D. was a trailblazer fueled by passion.

After inheriting a modest dermatology division with a not so modest deficit, Dr. Modlin saw potential and immediately began building the reputable division he has successfully helmed since 1993. As we welcome 2013, we celebrate Dr. Modlin's 20 years as the Division of Dermatology's Chief and commemorate his incredible service to the UCLA community.

Dr. Modlin began his career in 1984 after attending medical school at New York University's School of Medicine and completing his residency at the University of Southern California's School of Medicine. His passion for the dermatologic field eventually brought him to UCLA, where he served as Associate Professor from 1984 to 1992. He was appointed to Co-Chief of the division in 1992.

Division colleagues, both present and past, reflect on Dr. Modlin's 20 years with gratitude and awe.

Paul C. Levins, M.D. one of the first medical dermatologist recruits under Dr. Modlin who had returned to his alma mater, Harvard University, in 1999 but recently returned to UCLA as a faculty member, remembers Dr. Modlin's early days as Chief and the impact he's had on the division since then.

"Based on his expansive vision, he has, over the years, brought together a full symphony orchestra of skin immunologists, melanoma specialists, pediatric dermatologists, dermatopathologists, medical dermatologists and perhaps the finest surgical and laser unit in the world," Dr. Levin says. "He pioneered the STAR Program to recruit scientists into dermatology with a strong record of academic promotion to the professorial level at top universities in the U.S. and leadership positions in dermatology. He has mentored scores of clinical dermatologists to positions of excellence in practice."

Peter Sieling, M.D., Assistant Director of Translational Immunology at the John Warne Cancer Institute, who became UCLA School of Medicine faculty in 1996 and is currently an Immunologist and Associate Professor, also recalls Dr. Modlin's tenacious approach to recruiting as well as his innovative approach to research. He explains, "I worked with Robert for just over 20 years, first as a fellow then as faculty. He has the ability to bring two seemingly unrelated pieces of information together to form a scientific story. There are many examples, but one that comes to mind would be the finding that toll-like receptors induce macrophages to kill mycobacteria. This idea seems simple and obvious now, but at the time, studies of innate immune receptors were still in its infancy and linking them to antimicrobial defenses was not contemplated."

With countless published papers, presentations and globally recognized accomplishments to his name, Dr. Modlin has built a bold reputation for the division he leads as one of the top dermatology divisions in the nation. In February, he was elected as a distinguished fellow of the American Association for the Advancement of Science (AAAS), which honors his significant contributions towards understanding human antimicrobial pathways including Th1/TH2 cytokines, TLR 2 recognition of microbial lipoproteins and the role of vitamin D in immunity. His current research is focused on the study of leprosy as a means to learn more about the mechanisms of host defense in humans.

Others who have worked under Dr. Modlin since the beginning believe he exemplifies the qualities of an ideal mentor and leader.

Patrick K. Lee, M.D., Assistant Clinical Professor, who joined UCLA as a dermatology resident in 1992 and has [moved on to Director of Dermatologic Surgery Residency Education at UCLA], says, "Robert Modlin has been an exemplary chief for me: supportive, trusting, pensive, always looking for input to make valuable and important decisions. He has been supportive of me since the beginning of my career and I sincerely believe that I would not have achieved so much work that I have been proud of without his unfailing belief and vision."

Maria Ochoa, M.D., Associate Clinical Professor at USC Keck School of Medicine's Department of Dermatology adds, "I worked with Dr. Modlin for 13 years at UCLA. He was my research mentor and the Chief of the Division during my tenure at UCLA. His guidance was monumental in helping me grow in my career."

Delphine Lee, M.D., Director of Translational Immunology Department at the John Wayne Cancer Institute, joined UCLA in 2002 for her residency and eventually became faculty until moved to John Wayne Cancer Institute. She credits Dr. Modlin as the reason why she came to UCLA. "He was a wonderful mentor and taught me how to study immunology in humans," she says. "My experience before had only been in mice. His skills in seeing interesting questions and tying together findings to understand how the human immune system works is really what I took away from working with him. He really has built this program to develop investigative dermatologists who do basic science research. This is a legacy that he's going to leave behind that really is going to help the whole field of dermatology. He played a critical role in my development as a scientist. I feel very lucky that he was mentor."

Joseph W. Landau, M.D., whose faculty tenure at UCLA precedes Dr. Modlin's inception, remembers Dr. Modlin as a young investigator first joining UCLA. As the former acting president of the Dermatologic Research Foundation of California, Inc. (DRF), a now dissolved nonprofit organization whose mission was to develop dermatologic research and methods for the diagnosis and treatment of skin diseases, Landau helped champion Dr. Modlin's growing division for grants from the DRF.

"During Dr. Modlin's tenure, the division has grown in stature in both research and clinical activities," says Dr. Landau. "Dr. Modlin has become an internationally-recognized authority in his research endeavors and UCLA now ranks among the most sought after dermatology training programs in the country."

Congratulations, Dr. Modlin for an astounding 20 years as Chief!

UCLA/WVA Residency and Educational Update

2012 Graduating Dermatology Residents and Procedural Dermatology Fellow and their Destinations:

Nima Gharavi, M.D., Ph.D. – Procedural Dermatology Fellowship at UCLA Division of Dermatology

Julie Jackson, M.D. – Dermatopathology Fellowship at UCLA

Scott Worswick, M.D. – UCLA Division of Dermatology Faculty

Jamie Zussman, M.D. – UCLA Division of Dermatology Faculty

2012-2013 Residents:

PGY-4

Cameron Chesnut, M.D.

Trenton Custis, M.D., M.B.A.

Rajan Kulkarni, M.D., Ph.D.

Philip Scumpia, M.D., Ph.D.

PGY-3

Andrew Breithaupt, M.D.

Jennifer Hsiao, M.D.

Ashley Rubin, M.D.

PGY-2

M.D. Sam Balin, M.D., Ph.D. completed an internal medicine internship at Jacobi Medical Center in New York and graduated from Mayo Medical School.

Joseph Diehl, M.D. completed an internal medicine internship at Olive View-UCLA Medical Center and graduated from the David Geffen School of Medicine at UCLA.

Stephanie Martin, M.D. completed an internal medicine internship at the University of Texas Medical School at Houston and graduated from at the University of Texas Medical School at Houston.

James Wang, M.D. completed an internal medicine internship at Olive View-UCLA Medical Center and graduated from Harvard Medical School.

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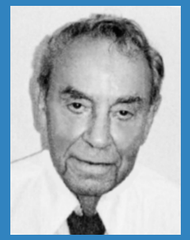

Remembering
Dr. Paul Gethner

Paul J. Gethner, M.D., whose dedication to the UCLA Dermatology community helped perpetuate a legacy of education and mentorship, passed away on Oct. 4. He was 88.

As a voluntary faculty member at Harbor-UCLA Medical Center for more than 50 years, Dr. Gethner mentored residents and led the Division of Dermatology's Grand Rounds program while running his own practice in Torrance, Calif. He earned honorary status at Harbor-UCLA Medical Center in 1990 and was an integral leader among the staff.

In 2011, Dr. Gethner earned the Division of Dermatology's Career Achievement Award for his lasting contributions to dermatology as a practicing doctor, educator and philanthropist. He served as President of the Dermatologic Research Foundation of California, Inc., a nonprofit organization committed to dermatologic research for the diagnosis and treatment of skin diseases. He also served as President and Senior Member of the Metropolitan Dermatology Society.

"Paul was a tremendous supporter of our mission [and was] particular vocal in supporting our research and education programs," said Robert L. Modlin, M.D., Chief and Professor. "We will always remember his persistence."

Dr. Gethner was born and raised in Chicago, Ill. He graduated from the University of Illinois College of Medicine before completing a residency at Norwegian American Hospital and internship at Mount Sinai Medical Center. His induction to the Bruin community dates back to 1952, when he began his dermatology residency at UCLA.

Colleagues and loved ones will mostly remember Dr. Gethner's devotion to his work and family.

He is survived by his sister, Rita; daughters, Bonnie and Michelle and their partners, Judi and Brett; five grandchildren.

Alumni Highlight
Kathleen L. Behr, M.D.

Former resident and fellow of UCLA's Division of Dermatology Kathleen L. Behr, M.D. is giving back to the programs that have equipped her with the skills and confidence to run her own practice in Fresno, Calif.

Dr. Behr recently contributed to the Futures Fund, a new endeavor established to maintain the division's excellence in medical education by providing the most innovative and competitive training for UCLA's young dermatologists. The Futures Funds was established to support the next generation of dermatologists by enhancing resident and fellow education, and providing the most up-to-date training of young physicians.

"I received excellent training that has allowed me to excel in my practice," said Dr. Behr, who specializes in dermatologic surgery including Mohs micrographic surgery and cosmetic dermatology. "I don't think I could have done that without the training that I received at UCLA."

During her time at UCLA, Dr. Behr excelled as chief resident and completed fellowships both in Mohs micrographic surgery and cosmetic surgery. As an assistant clinical professor until 2001, she received the Victor E. Newcomer Award for her dedication and commitment to excellence in teaching and academics.

Today, Dr. Behr is a published author and lecturer, as well as a fellow for several distinguished dermatologic groups. In 2007 and 2009, she was named Best Dermatologist by Fresno Magazine and still continues to be recognized for her service to the community.

For information about Dr. Behr's practice, visit 435skin.com. To learn how you can contribute to the Division of Dermatology's Futures Fund, visit **www.giving.ucla.edu/dermatology.**

UCLA Dermatology Holds Annual Basic Science Symposium

UCLA's Division of Dermatology hosted its annual Basic Science Symposium at the California NanoSystems Institute Auditorium on September 27. About 50 guests, including distinguished scholars, researchers, residents and division colleagues gathered to listen to eight research presentations that highlighted work on the cutaneous oncology and immunology front. Presentations included:

Antoni Ribas Laboratory - Helena Escuin-Ordinas, Ph.D. presented "COX-2 inhibition prevents the appearance of cutaneous squamous cell carcinomas induced by BRAF inhibitors"

William Lowry Laboratory – Andrew White, Ph.D. presented "Stem cell quiescence as a tumor suppressor mechanism in the initiation of squamous cell carcinoma"

David Baltimore Laboratory - Rajan Kulkarni, M.D., Ph.D. presented "Quantitative gene networks in cancer"

Roger Lo Laboratory – Gatien Moriceau, Ph.D. presented "Acquired resistance upon treatment with deal BRAF and MK inhibitors in melanoma"

Stephen Smale Labooratory – Pihlip Scumpia, Ph.D. presented "Idssecting the regulation of IL-12 beta expression by G-protein coupled receptors"

Tatiana Segura Laboratory – Donald Griffin, Ph.D. presented "3D patterning of peptides and proteins within hydrogels for directed cell growth"

Jenny Kim Laboratory – Min Qin, Ph.D. presented "The role of inflammasome pathways in acne pathogenesis"

Robert Modlin Laboratory – Mirjam Schenk, Ph.D. presented "NOD2 triggers an IL-32 dependent human dendritic cell program in leprosy"

For Rajan Kulkarni, M.D., third-year resident of the division's Specialty Training and Advanced Research (STAR) Program who presented on behalf of the David Baltimore Lab, the symposium helps validate the purpose of his team's research. "We want to better understand the process by which melanoma occurs and becomes more invasive or aggressive," said Dr. Kulkarni. "I received helpful feedback—that my approach was interesting and exciting and that it may help us to better understand this potentially deadly disease."

For the latest on the division's research initiatives, visit "Research" at **www.derm.med.ucla.edu.**

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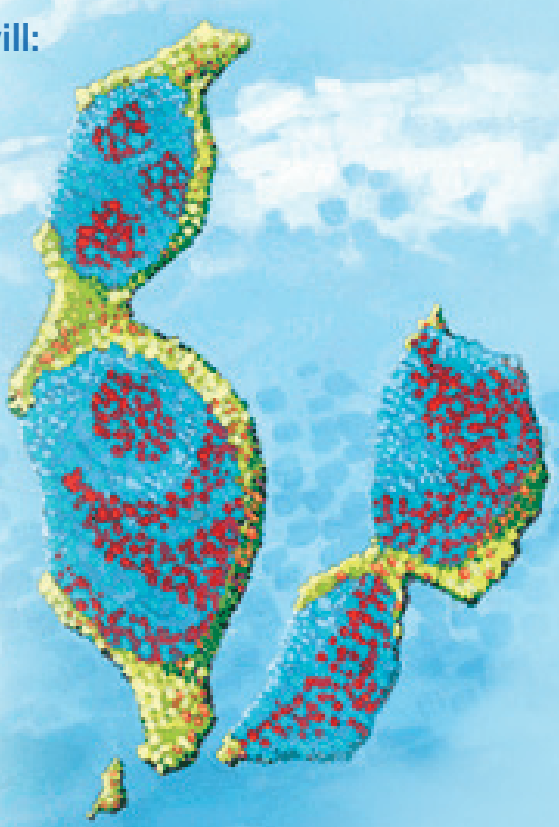
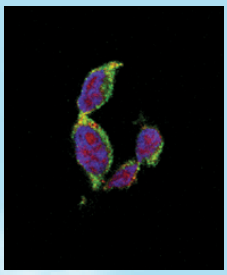
How You Can Help

Contributions to the UCLA Division of Dermatology will:

- provide outstanding individualized diagnosis and treatment of skin disease.
- educate the next generation of physicians and scientists to become leaders in medical dermatology, cosmetic dermatology, dermatologic surgery, dermatopathology and investigative dermatology.
- develop new and better strategies to diagnose and treat skin disease through innovative research.

You can make a gift to the Division by logging on to **www.derm.med.ucla.edu**. Please call (310) 794-4746 if you have questions about making a gift





From the cover of Nature Immunology December 2012 Volume 13 No 12

Activation of type I interferon by c-di-GMP and c-di-AMP depends on the adaptor STING. Cheng, Modlin and colleagues show that these bacterial secondary messengers are detected by the helicase DDX41, which forms a complex with STING (p 1155 and News & Views by Bowie, p 1137). The original image by Rosane Teles, from the Robert Modlin Laboratory, shows weak colocalization of c-di-GMP (red) with STING (green) in 293T cells transfected with Myc-STING and biotinylated c-di-GMP. Artwork by Lewis Long.