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Mohs surgeon Thuzar Shin, MD, PhD consulting with a patient in the Penn Dermatology Oncology Center
We have been fortunate in the Department of Dermatology to have one of the top skin research programs in the country for decades. When I think about how we got here, I realize that great research is driven by technology. We have moved from what Dr. Albert Kligman called “paleodermatology” where we assigned descriptive Latin and Greek names to skin diseases, to actually understanding their pathogenesis, and in some cases developing specific treatments for them. From the biologic agents for psoriasis to rituximab for pemphigus, we have many new options for treating skin disease.

In my case, after localizing hair follicle stem cells in the bulge, I started with a seemingly simple task of wanting to characterize the genes expressed by these cells to better understand them in the hopes of impacting wound healing, skin cancer and alopecia. The approach for doing this was much more complicated than I initially imagined and I had to wait for the introduction of many new technologies, including transgenic mice, green fluorescent protein, fluorescent activated cell sorting, gene expression microarrays and laser capture microdissection. Many of those who developed these technologies won Nobel prizes because of the broad impact they had on the scientific community. As a physician-scientist in dermatology, with the help of highly talented trainees in my lab, we were able to use these astonishing new tools to study the hair follicle and define the bulge cells, first in the mouse and then in human disorders like androgenetic alopecia and cicatricial alopecias. Ultimately, we defined a prostaglandin receptor (for PGD2) as a target for treating androgenetic alopecia, and this finding led to a clinical trial that tests a PGD2 receptor inhibitor.

Many other breakthroughs have resulted from the investment in research and technology. Carl June, MD, an oncologist here at Penn, developed modified T cells to attack cancer (CAR technology). Philanthropic funds played a major role in his success and his research is now funded by the Sean Parker Institute as well as Novartis and the NIH. Aimee Payne, MD, PhD in our department recently modified Dr. June’s approach and is developing a cutting edge treatment for autoimmune diseases. She plans to test this new potential cure for pemphigus first in dogs and then, if all goes well, in humans. Dr. Payne is well positioned to leverage the outstanding resources available here at Penn, from this innovative CAR technology to our partnership with the Penn Vet School. With her knowledge and passion for studying pemphigus, she is poised to lead her laboratory towards a new type of treatment for a...
historically fatal skin disease. She is able to do this, in part, because her career has been supported by endowment funds. These funds have benefited many members of the department and have been instrumental in the success of our research program. I am sure that you will read more about Dr. Payne in future newsletters.

We are investing in the latest technology at the departmental level. With the recruitment of Pantelis Rompolas, PhD, we have established a live imaging facility that will blow your mind! Dr. Rompolas is able to visualize cells in the epidermis and hair follicle in living mice. He creates time lapse movies of the cells as they proliferate and migrate to form hair follicles or heal wounds. Take a look at some of his movies through the links in the newsletter. He truly has moved the department’s research to a new level.

As a shining example of a physician-scientist applying technology directly to problems dermatologists see in the clinic, Todd Ridky, MD, PhD has made remarkable discoveries related to very common pigmented disorders. He’s identified novel pathways controlling pigmentation and his findings have the potential to lead to new treatments for melasma and other hormonally related pigmented disorders. I’m sure you’ll enjoy the story about his research that captures his enthusiasm and expertise.

I constantly marvel at the creativity, dedication and productivity of our faculty. Across the board, from our hard working clinical dermatologists providing outstanding patient care, to our superb educators who teach the next generation of dermatologists and skin scientists, to the inquisitive investigators pushing our field forward, we are fortunate to work with each other in a collegial and rich environment. As Bruce Wintroub, MD discussed at the Pillsbury lecture, our future depends on working together to ensure that we offer opportunities to everyone. You will read wonderful highlights of the accomplishments and interests of our faculty in these pages. I cannot tell you how proud I am of our department.

I hope those of you in the community who visit us, either as volunteers in the clinics or for Duhring or Penn Philly Derm conferences, can sense the excitement. Much of what we accomplish is due to your support. Philanthropy benefits many of our community outreach and educational programs, and you should not underestimate how your support of our surgical and dermatopathology programs, including patient referrals and biopsy submissions, is critical to our academic success. We dedicate ourselves to achieving an outstanding patient experience and providing the best service to the dermatology community. As an example of both, our turnaround time for routine dermatopathology specimens is typically within one to two business days. As the department grows its research, teaching and clinical missions, there are many opportunities for your involvement and I ask you to reach out to us if you are interested.

Sincerely,

George Cotsarelis, MD
cotsarel@mail.med.upenn.edu
215.898.3240
The Penn Dermatology Oncology Center has opened the doors of its state-of-the-art suite in the South Pavilion of the Perelman Center for Advanced Medicine. Under the leadership of Christopher Miller, MD, Associate Professor of Dermatology and Director of the Penn Dermatology Oncology Center, the Center coordinates the efforts of faculty, staff and researchers to facilitate care of patients with skin cancer, to accelerate research and to provide a premiere education for trainees.

Specialized Skin Cancer Patient Care
The Penn Dermatology Oncology Center consists of four clinics specializing in targeted skin cancer patient populations. It coordinates interdisciplinary care with Penn’s Abramson Cancer Center to optimize treatment for patients whose needs extend beyond dermatology.

The Pigmented Lesion Clinic targets patients with melanoma or atypical melanocytic lesions.

The High-Risk Skin Cancer Clinic for Organ Transplant and Immunosuppressed Patients helps those who are at increased risk for developing multiple primary and/or aggressive skin cancers.

The Mohs and Reconstructive Surgery Clinic provides specialized real-time pathology to guide surgical removal of skin cancers and optimize reconstruction outcomes.

The Rare Skin Cancer Clinic provides care for patients with rare skin cancers or genetic syndromes associated with skin cancers.

Integrating the Mohs and Reconstructive Surgery Clinic and the Pigmented Lesion Clinic for treatment of melanomas of the head, neck and acral sites is a prime example of how the Penn Dermatology Oncology Center is advancing patient care. The physicians in both clinics work together to determine the best surgical approach to removing these challenging melanomas. By using our innovative
Mohs surgery technique supplemented by frozen section melanocytic immunohistochemical stains, the Center has reduced the rates of local recurrences of these challenging melanomas to <1%, a vast improvement over the >10% rate of local recurrence from conventional surgery (Journal of the American Academy of Dermatology 2015;72:840-50). Our work with thousands of patients at our Center is helping to define which melanomas require margin control prior to reconstruction (Dermatology Surgery 2016;42:471-6).

**Innovative Skin Cancer Research**
The Penn Dermatology Oncology Center drives innovation in skin cancer research. John Seykora, MD, PhD, Todd Ridky, MD, PhD and Emily Chu, MD, PhD connect our specialized clinics to the lab by organizing basic and translational research efforts. For example, Drs. Seykora and Chu are studying genetic changes that drive the progression of early lesions to more aggressive cutaneous squamous cell carcinoma. Using fixed biopsy specimens from our clinics, their labs use laser capture microdissection to isolate the RNA and DNA from cancerous and non-cancerous skin cells. They use genomic sequencing to identify mutations that may become targets for future therapies.

**World-Class Skin Cancer Education with Interdisciplinary Collaboration**
The Penn Dermatology Oncology Center offers trainees world-class education in the prevention and treatment of skin cancer through hands-on training in our specialized clinics and laboratories, weekly conferences and regular interdisciplinary collaboration. Our highly competitive ACGME-approved fellowships allow board-certified dermatologists to specialize in Mohs micrographic surgery, reconstructive surgery and dermatologic oncology. Fellows participate in the Penn Dermatology Oncology Center clinics, conduct research and attend weekly pathology conferences and tumor boards to plan treatment for our most challenging patients. At our weekly conference, our dermatopathology fellows review the clinical presentation and pathology of our most complex tumors with our Mohs surgeons and Dermatopathology attendings, respectively. Penn residents from Plastic Surgery and Otorhinolaryngology have required rotations in our Mohs and Reconstructive Clinic. Regular interaction among clinicians, pathologists and surgeons from multiple specialties promotes a culture of collaboration that is essential for the future of skin cancer care.

**A Transformative Center to Advance the Prevention and Treatment of Skin Cancer**
The Penn Dermatology Oncology Center advances the prevention and treatment of skin cancer by promoting synergy within the dermatology department and with physicians across the Penn Health system. We focus on the unique needs of our patients to identify opportunities to improve care and educate patients about their disease. We believe that providing compassionate care is as important as the cures we achieve.

For more information about supporting the Penn Dermatology Oncology Center, please contact Caitlin Crowe Doelp at 215.746.2167 or ccrowe@upenn.edu.
The Thirty-Second Annual Pillsbury Lectureship in Dermatology was held on May 5, 2016 at the University of Pennsylvania Perelman School of Medicine. Bruce Wintroub, MD, Chair of Dermatology and Vice Dean of the University of California San Francisco School of Medicine, presented the lecture entitled, “Insuring the Future of Dermatology: Race and Ethnicity Matter.”

Dr. Wintroub received his medical degree from Washington University, St. Louis in 1969. He completed residencies and fellowships at Harvard Medical School (dermatology and immunology) and Peter Bent Brigham Hospital (internal medicine) and is board-certified in both Internal Medicine and Dermatology. Dr. Wintroub has been at UCSF for more than 32 years serving in multiple leadership roles, including interim dean of the School of Medicine from September 2014 to June 2015. In addition to his work for UCSF, he serves as the chair of the Dermatology Foundation, which has been instrumental in helping to launch the research careers of many investigative dermatologists.

In 2014, Dr. Wintroub had a front row seat as medical students banded together in their protest of events in Ferguson, Missouri and New York City by organizing a “Die-in” on UCSF’s campus, sparking a movement of “White Coats for Black Lives” that spread throughout the country. At the time, Dr. Wintroub was the Interim Dean of the UCSF Medical School and supported the efforts of students to raise awareness for these important issues. He helped introduce a daylong colloquium, which included both data and personal stories about what it means to be black and brown in America. He also organized a two day leadership retreat focused on these issues. We were delighted to hear his story as our 32nd Annual Pillsbury Lecturer.
HAILS & FAREWELLS
HAIL TO OUR 2016 INCOMING RESIDENTS AND FELLOWS

Dermatopathology Fellows

Alexandra Flamm, MD
Medical School: Mount Sinai School of Medicine
Residency: State University of New York (SUNY) Downstate Medical Center

Vishwas Parekh, MD
Medical School: B.J. Medical College, Ahmedabad, India
Residency: University of Alabama at Birmingham Hospital

CHOP Pediatric Derm Fellows

JiaDe (Jeff) Yu, MD
Medical School: University of Virginia Medical Center
Residency: Medical College of Wisconsin

Scarlett Boulos, MD
Medical School: University of Texas Medical School at Houston
Residency: Wright State University Boonshoft School of Medicine

CTCL Fellow

Sara (Farber) Berg, MD
Medical School: University of Pennsylvania Perelman School of Medicine
Internship: Pennsylvania Hospital

Procedural Dermatology Fellow

Eduardo Moioli, MD, PhD
Medical School: Northwestern University Feinberg School of Medicine
Residency: University of Chicago Medical Center

First Year Residents

Oyinade Aderibigbe, MD
Medical School: University of Pennsylvania Perelman School of Medicine
Internship: Brigham and Women’s Hospital

Avrom Caplan, MD
Medical School: University of Chicago Pritzker School of Medicine
Internship: Hospital of the University of Pennsylvania

Anna Cogen, MD
Medical School: University of California San Francisco School of Medicine
Internship: Virginia Mason Hospital

Christine Cornejo, MD
(Former CTCL Fellow)
Medical School: University of Pennsylvania Perelman School of Medicine
Internship: Pennsylvania Hospital

Amanda Derwae, MD
Medical School: Uniformed Services University of the Health Sciences
Internship: Brooke Army Medical Center

Elizabeth Heller, MD
Medical School: State University of New York (SUNY) at Buffalo School of Medicine & Biomedical Science
Internship: University of North Carolina Medical Center

FUTURE ENDEAVORS OF GRADUATING RESIDENTS & FELLOWS

Aileen Chang, MD (resident): HIV Dermatology Fellowship, University of California San Francisco, based in Uganda
Ali Damavandy, MD (fellow): Practice in Washington, DC
Paul Haun, MD, MS (fellow): Assistant Professor of Dermatology, University of Pennsylvania
Mark Mochel, MD (fellow): Dermatopathologist at Virginia Commonwealth University
Badri Modi, MD (resident): Assistant Clinical Professor, The City of Hope Hospital in Los Angeles, California
Amanda Moon, MD (fellow): Staying locally and currently in negotiations
Cory Simpson, MD, PhD (resident): Clinical Instructor & Post-Doctoral Research Fellow, Dermatology, University of Pennsylvania
Sasha Stephen, MD (resident): Assistant Professor of Dermatology, University of Pennsylvania
Jenna Streicher, MD (fellow): CHOP Pediatric Dermatology Faculty
Joy Wan, MD (resident): Instructor & Post-Doctoral Research Fellow, Dermatology, University of Pennsylvania
Joel Gelfand, MD, MSCE, Professor of Dermatology and Medical Director of the CSU, and Operations Director Cynthia Clark, PhD, CRNP oversee a team of highly skilled, experienced and certified research coordinators, nurses and investigators who collaborate to effectively and safely implement clinical studies. Whether physicians are in initial planning phases of a study and working to get their study funded or in the middle of an ongoing study, the CSU seamlessly coordinates the necessary funding, regulatory and archiving activities. The first of its kind in the nation to specialize in dermatology, the CSU supports one of the top NIH-funded research departments and receives funding from the Food and Drug Administration, foundations and pharmaceutical companies. Receiving national and international referrals, the supported clinical studies range from common and easily treatable skin conditions to extremely rare and problematic dermatologic diseases. The CSU is integral in carrying out the mission of Penn Dermatology by streamlining implementation and operational processes. Their support allows a greater number of studies to be carried out and ensures studies function at a highly effective level, producing tangible results that will influence patient care.

CSU provides the following services:
- Photography
- IMT electronic transfer of images
- Electronic data capture
- Creation of source documents
- Biological specimen shipping
- Controlled access to electronic medical records via EPIC for CRAs/Monitors during scheduled monitoring visits
- Archiving of study documents and patient records after study closeout

The CSU also has a diverse array of equipment on site to support clinical research.

The Penn Dermatology Clinical Studies Unit is located at the Hospital of the University of Pennsylvania. To refer a patient, or to learn how to participate in clinical trials, please contact 215.662.SKIN (7546).
SEX HORMONES IN SKIN COLOR

The discovery of the mechanisms by which sex steroids alter melanin production could generate alternatives to tanning the skin without exposure to harmful UV radiation.

In their study published in eLife, Todd Ridky, MD, PhD and his team have elucidated the role that the two female sex hormones, estrogen and progesterone, play in darkening or lightening of the epidermis. While pregnant women have historically experienced changes in pigmentation of the skin, researchers had difficulty identifying exactly which hormones or combination of hormones were responsible. In the study, estrogen levels were designed to mimic those seen during pregnancy, and researchers found that human melanocytes, when exposed to these estrogen levels, increased melanin production. When the melanocytes were exposed to progesterone, which usually counterbalances the effects of estrogen, melanin production decreased.

Researchers were then confronted with the task of uncovering the mechanisms behind these effects. GPER and PAQR7 signaling is sufficient to alter melanin production in organotypic human tissue. A. Organotypic skin treated with control (left) or G-1 a GPER agonist (right). B. Melanin staining of organotypic skin treated with control or G-1.

When skin is normally exposed to sunlight, UV rays cause a rise in melanocyte stimulating hormone (MSH) which binds and activates the melanocortin 1 receptor (MC1R) on melanocytes. The subsequent signal cascade ultimately leads to a production of melanin. Estrogen and progesterone, however, do not act on MC1R. This finding led to the discovery of separate estrogen and progesterone receptors (GPER and PAQR7 respectively) on melanocytes, and the study confirmed that these receptors are necessary in the pigmentation process.

Dr. Ridky and his colleagues were then able to purify the GPER-activating compound and apply it in a cream to the ears of mice. After three weeks, melanin levels rose by 60% and caused a visible darkening of the skin. The team is now collaborating with the laboratory of Jeffrey Winkler, PhD, Merriam Professor of Chemistry at Penn, to develop therapeutics for human clinical trials. These results not only have the potential to develop therapeutics for medical conditions but also safe cosmetic treatments for tanning of the skin, effectively eliminating the use of tanning beds and harmful exposure to UV rays.

For more information about supporting these research efforts, please contact Caitlin Crowe Doelp at 215.746.2167 or ccrowe@upenn.edu.
Penn Dermatology residents have the opportunity to spend elective time pursuing diverse interests including domestic and international rotations

**Navajo Nation, AZ and Pondicherry, India**
Aileen Chang, MD, a senior dermatology resident, participated in a one-week rotation in Navajo Nation. During that week, she was based at the Chinle Comprehensive Health Care Facility in Chinle, AZ and traveled to outreach sites in Pinon and Tsaile, AZ. Typically, there is one full-time dermatologist on the reservation, located about 2.5 hours from Chinle, and a dermatology resident is present at Chinle for 1-2 weeks every 3 months. During her week in the clinic, Dr. Chang was paired with a primary care provider, which gave her the opportunity to engage in education alongside patient care. She provided care for patients with a range of dermatologic conditions including actinic prurigo, severe nodulocystic scarring acne, and most notably, discoid lupus. This rotation, supported by the American Academy of Dermatology and directed by Dr. Camille Introcaso, was eye-opening to the immense disparities that exist within our own country.

Dr. Chang also participated in a 3-week observership with the Department of Dermatology & STD at Jawaharlal Institute of Postgraduate Medical Education & Research (JIPMER) in Pondicherry, India supported by the Women’s Dermatologic Society and the Penn Global Dermatology Fund. JIPMER is a public academic hospital, serving as one of the main referral centers for southern India. Patients travel many hours, sometimes days, to be seen at JIPMER. Dermatology patients are seen 6 days a week in clinic and, when needed, admitted to inpatient dermatology wards. Dr. Chang focused her experience on learning about the diagnosis and management of leprosy, as well as management of complex medical dermatologic diseases (connective tissue diseases, pemphigus foliaceus/vulgaris and deep fungal infections) in a resource-limited setting. She also saw multiple pediatric conditions, including Hyper IgE syndrome, Beare-Stevenson cutis gyrata syndrome and neurofibromatosis-1. A major highlight of the experience was learning from Indian dermatology residents and attendings about their medical training, healthcare culture and clinical practices.

**Gaborone, Botswana**
Badri Modi, MD, Co-Chief Resident in the global health track, traveled to Gaborone, Botswana in July 2015. The Botswana-UPenn Partnership began in 2001 in response to a shortage of doctors coupled with the high prevalence of HIV that led to a crisis in the country. Sponsored by the Department of Dermatology, the American Academy of Dermatology and generous donations from Peg and E. Michael Kramer, MD, Penn in Botswana is an independent, high-functioning program with more than 80 full-time staff and provides global health experiences for many medical students and residents. Dr. Modi spent four weeks in Botswana, an experience that afforded him with the opportunity to truly act as an independent practitioner with no supervising attending. His initial week in Botswana overlapped with the final week of the previous dermatology resident, allowing for an orientation to the medical landscape at the main medical facility, Princess Marina Hospital. As Botswana has one of world’s highest incidences of HIV/AIDS, Dr. Modi saw many HIV-related dermatoses and other diseases rarely seen in the United States, including acquired epidermodysplasia verruciformis, Kaposi’s sarcoma and oculocutaneous albinism. Dr. Modi was
challenged by resource limitations which spurred creativity with diagnostic workups and therapeutic plans. Dr. Modi’s experience was not only enriched by the patients he saw but also the many new colleagues that he met in Botswana and their different perspectives on global health related issues.

**Sao Paulo, Brazil**

In May 2015, Co-Chief Resident Sasha Stephen, MD participated in a dermatology elective in Brazil as part of the Women’s Dermatologic Society’s mentorship award. With a strong interest in global health, Dr. Stephen was eager to use her elective time to gain experience in treating infectious diseases rarely encountered in the United States. Under the guidance of Dr. Paolo Velho at the University of Campinas (UNICAMP), she spent a week each at UNICAMP and at Instituto Lauro de Souza Lima in Bauru.

UNICAMP have notable pathology, including autoimmune blistering and connective tissue diseases, cutaneous lymphomas, as well as infectious diseases such as leprosy, leishmanial and endemic mycoses. Learning about the care of complex dermatologic conditions, while practicing with limited diagnostic and treatment options, provided Dr. Stephen with a great educational experience.

Instituto Lauro de Souza Lima (ILSL), where Dr. Stephen spent the second week of her elective, was initially established as an official leprosy colony for Sao Paulo in 1933. Patients with leprosy were isolated and received treatment as it became available through the 1960s. It now serves as a referral center for dermatology, and leprosy in particular. In addition to diagnosis and treatment of leprosy, the institute carries out research, education, physical and occupational therapy, as well as corrective plastic surgery for sequelae of leprosy. Unfortunately, Brazil still remains second worldwide (following India) in prevalence of leprosy today. At ILSL Dr. Stephen had the opportunity to see patients with a wide range of leprosy lesions from tuberculid to lepromatous, as well as leprosy reactions. She also learned techniques such as bacilloscopy, which allows for identification of M. leprae bacilli from earlobes, elbows, and knees. This procedure involves making a small incision and obtaining lymph, which is smeared on a slide, and visualized with special stains. Due to M. leprae’s predilection for nerves with resultant nerve inflammation and edema, palpation of enlarged nerves is another skill that Dr. Stephen was able to learn from her Brazilian colleagues. Her two-week experience served as a rich educational opportunity for international work that she hopes to integrate into her future practice.

To view a recent interview with Rudolf Roth MD, who spearheads many of the Dermatology Global Partnerships, please visit 6abc’s website.
SPOTLIGHT ON COMMUNITY HEALTH

Penn Dermatologists donate their specialized skills and services to the local Philadelphia Latino community

Puentes de Salud, Philadelphia

In addition to Penn Dermatology’s global efforts, our physicians also volunteer their time and focus their efforts on community health in the Philadelphia area. Puentes de Salud (“Bridges of Health”, www.puentesdesalud.org) is a non-profit organization located in Center City that focuses on providing excellent healthcare and wellness education to a population of primarily Latino immigrants who otherwise have limited access to care. Penn Dermatology has offered a monthly clinic at Puentes for several years. Co-Chief Resident Cory Simpson, MD, PhD currently serves as the resident coordinator for the clinic, making sure there is a volunteer resident and attending to staff the clinic each month. The clinic sees between 8 and 12 patients at each clinic.

The patients are referred to the dermatologists by their primary care physicians at Puentes for evaluation. Some of the conditions regularly seen include pigmentedary disorders, inflammatory acne, keloid scars, autoimmune diseases such as vitiligo, and severe viral warts (which when appearing on the digits can be a cause of dismissal from jobs in the food service industry). Penn dermatologists bring supplies to perform cryotherapy, biopsies and lesional injections. Pathology for biopsies is donated by the department with Carrie Kovarik, MD generously reading the slides free of charge. Attendings that volunteer currently at Puentes include Zelma Chiesa-Fuxench, MD, MSCE; Jules Lipoff, MD; Rudy Roth, MD; and Sara Samimi, MD.

As clinic coordinator for the past two years, Dr. Simpson recently won a Penn CAREs grant, which provides $2,000 toward the purchase of durable supplies for healthcare community outreach projects at Penn. This money was used to purchase a liquid nitrogen canister for cryotherapy and a hyfrecator, which will allow the dermatologists to safely perform larger biopsies, small excisions and lesion destruction.
GLOBAL HEALTH: DERM SURGERY

Dr. Sobanko volunteers his time and expertise to train South African dermatology residents in dermatologic surgery

Durban, South Africa

In February 2016, Penn Dermatology Mohs surgeon Joseph Sobanko, MD traveled to Durban, South Africa where he participated in the Global Health Dermatology Training Program. This program is a collaboration between Columbia University Medical Center, Brigham and Women's Hospital, Blade and Light International and the Nelson R. Mandela School of Medicine with the overarching goal of building a sustainable training program for physicians providing dermatologic surgical care in sub-Saharan Africa. Currently, dermatology training in South Africa does not incorporate surgical procedures into curricula despite a soaring patient demand due to an epidemic of skin cancers.

Dr. Sobanko’s colleagues, Chrysalynne Schmults, MD and Vishal Anil Patel, MD, developed this program to mimic the rigorous training programs at Harvard and Columbia. After three years in the program, residents will be fully trained and will have met the same standards as an ACGME (Accreditation Council for Graduate Medical Education) program.

Dr. Sobanko was recruited by his colleagues to teach in this program based on his exemplary educational, research and clinical background. Since joining Penn Dermatology in 2010, he has established a name for himself as one of the leading dermatologic surgeons in the nation and an outstanding role model for students, residents, fellows and faculty. He serves as the Director of Dermatologic Surgery Education at Penn and is tireless in his dedication to his patients and the development of the next generation of expert Mohs and reconstructive surgeons. Dr. Sobanko spent two weeks volunteering at Albert Luthuli Hospital, lecturing and guiding residents in the clinic. Visiting surgeons limit the amount of time they are scrubbed into surgery, instead allowing the residents to learn by doing. Dr. Sobanko worked to instill in the residents the necessary confidence and technical skills to perform procedures.

For more information about supporting Penn Derm’s Global Health efforts, please contact Caitlin Crowe Doelp at 215.746.2167 or ccrowe@upenn.edu.
PARTNERING WITH PENNDERM

Penn has consistently moved the field of dermatology forward through personalized care and therapeutic advances, developing new therapies through research and remaining committed to educating the next generation of physicians and researchers. With your investment and partnership, we can address pressing medical challenges and continue to drive innovation in dermatologic care.

Endowed Professorships—Rewarding Innovation
For decades, Penn dermatologists and researchers consistently receive recognition for excellence in patient care, research discoveries and education. Endowed professorships in investigative dermatology help attract and retain exceptional faculty and are instrumental in permanently recognizing their dedication.

Pilot Research Projects—Honoring Leaders
As the oldest dermatology department in the country, Penn Derm has been shaped by many great leaders whose legacies live on through scientific breakthroughs. Contributions to pilot research projects afford investigators necessary resources to explore novel approaches and develop treatments.

Laboratories and Research Facilities—Promoting Scientific Advancement
Research space is of great necessity as new laboratories and instruments provide the path to discoveries. With added resources, Penn Derm will advance cutaneous regeneration and research efforts.

Fellowship Training Programs—Supporting New Investigators
Penn Derm training programs attract outstanding candidates, developing leaders in dermatologic research, academic and clinical dermatology. Funds directed toward fellowship training programs guarantee our long tradition of educating exceptional scientists and clinicians.

Private philanthropy meets funding needs not covered by government grants or insurance reimbursements. Your donation enables us to break new ground and to improve upon existing therapies.

Philanthropic gifts of all sizes are greatly appreciated to support our research, educational and clinical missions. Naming opportunities within the department begin at $25,000. Additionally, any gift can be given outright, through a planned giving vehicle, or structured to be paid over a 5-year period. For more information about partnering with Penn Derm, please contact Caitlin Crowe Doelp at 215.746.2167 or ccrowe@upenn.edu.

STAFF SPOTLIGHT

Lauralee Burger, HT
Invited presentation at the 2016 Mohs Conference in Orlando, FL in April 2016

Gina DiValerio
Promoted to Dermatopathology Office Supervisor in April 2016

Kristen Geist
Promoted to Access Administrator in February 2016

Kristen Reid
Joined Dermatology as Program Manager of the Penn Dermatology Oncology Center in 2015
The children of Penn Dermatology faculty and staff enjoyed a day full of activities including a PennStar helicopter tour, visit to the Penn Museum and a hands-on lesson isolating DNA in strawberries.

TAKE YOUR CHILD TO WORK DAY

The children of Penn Dermatology faculty and staff enjoyed a day full of activities including a PennStar helicopter tour, visit to the Penn Museum and a hands-on lesson isolating DNA in strawberries.
The Rompolas Lab uses advanced microscopy and imaging techniques to elucidate the biological mechanisms responsible for the emergence of human skin disorders.

Penn Dermatology is excited to introduce the state-of-the-art Rompolas Lab. Headed by Pantelis Rompolas, PhD, Assistant Professor of Dermatology, the lab will address important biomedical questions, focusing on the interplay between the intrinsic nature of the stem cell and its microenvironment. Dr. Rompolas joined our department in July 2015 after completing a successful Postdoctoral Fellowship in Cutaneous Biology at the Yale University School of Medicine. In 2009, he received his PhD in Biomedical Science and MBA in Management from the University of Connecticut. At Yale, he extensively studied cell behavior and skin regeneration. His research in this area led to the creation of a novel visual model of skin stem cells, and he received the 2013 Merton Bernfield Memorial Award from the American Society for Cell Biology and the 2014 Blavatnik Postdoctoral Award in Life Science for his work. With his new home in a clinical department, Dr. Rompolas is excited to integrate clinical implications into his research and leverage the broad spectrum of resources available to him.

The skin is the largest and one of the most dynamic organs in the body, functioning as a source of innate immunity, insulating and protecting us from the outside environment. Skin cells, with their very short lifespan, are constantly replaced as millions are shed from our skin every day. Contained within the skin are hair appendages that follow their own distinct life cycle and have their own stem cell pools. At the epicenter of the Rompolas Lab’s focus are these powerful yet mechanistically unclear epithelial and hair follicle stem cells that drive the process of skin and hair regeneration. On a broad scale, pluripotent stem cells guide the developmental process, differentiating into our various organs with unique functions. At each developmental junction, stem cells attain a more and more distinctive role. As such, adult tissue stem cells have relinquished some of their flexibility and are more committed in their functionality. However, the potential to reprogram these stem cells exists, and the hope is that they can be reverted back to a multipotent state. In the medical field, the value of a stem cell renouncing its committed role lies in the ability of researchers to then provide it with new, distinct instructions. Supplied with new directives, the now multipotent cell would have the potential to regenerate injured skin or activate dormant hair follicles, attaining favorable results for patients.

One of the vital tools used in advancing knowledge of stem cells, and ultimately the goal of translational therapies, is intravital multiphoton microscopy. The advantages of such technology are twofold when compared with...
traditional microscopy: the live imaging system 1) penetrates deep into the tissue without sustaining damage to the live mouse and 2) allows researchers to observe a continuous sequence of events both in real-time and over a longer period. The real-time videos and 3-dimensional images generated by the microscope in vivo capture stem cells in their native tissue environment and depict active processes like cell divisions. Because of the inherent non-invasiveness involved in studying the skin, the lab has the ability to monitor the sequence of events of a longer process over several weeks or months. By placing a tiny black dot tattoo on the skin of the mouse, they can locate the exact same stem cells week after week to capture their progression and lineage within a full cycle.

By employing these advanced imaging techniques, researchers in the lab have already elucidated some unique functions of the stem cell niche. They were able to devise a spatially-regulated model for the hair follicle stem cell niche, meaning that the location of an individual stem cell subsequently controlled its fate during the regeneration process. Based on its location in one of three vertical divisions within the niche, they could predict whether an individual stem cell would have no effect on the regeneration process, assume an undifferentiated status or become differentiated.

To analyze the fate of the hair follicle stem cells in depth, they again used novel technology to perform laser ablation. Through this method they were able to eliminate dermal papilla cells, located in the mesenchyme directly below the stem cell niche as part of the microenvironment, to precisely define their role in regeneration. They found that once these mesenchymal cells were removed, hair growth was arrested, indicating that these cells, and the microenvironment in general, are indispensable in the regeneration process. Again they used laser ablation to remove hair follicle stem cells, which reside inside the niche, and observed no alteration in the hair growth process. Interestingly, once the hair follicle stem cells were removed, neighboring stem cells previously unrelated to this regeneration process assumed a new identity as a hair follicle stem cell, again evidencing the influential role of the microenvironment. This compartmentalization of the hair follicle, along with how it interacts with its neighboring cell populations, provides an ideal scenario for studying stem cell biology with the potential to lay the foundation for other specialized stem cell processes in different and more complex parts of the body.

The skin is one of the most interesting organs to study and is the only one that can be regenerated in the lab. Its easy accessibility and high degree of plasticity make it ideal for studying the mechanisms underlying homeostasis. The Rompolas Lab hopes to develop a more precise understanding of the epithelial and hair follicle stem cell processes that lead to proliferation or differentiation, which will ultimately clarify the pathophysiology of certain dermatological conditions. If they can figure out the precise manner in which epidermal diseases develop, they will be better equipped to produce effective targeted therapies. The Rompolas Lab continues to use their advanced technology to make strides in these areas, embodying their philosophy of breaking new ground by encouraging scientific curiosity.

To view clips from this state of the art live imaging system, please visit the laboratory’s website

For more information about supporting Penn Derm’s research efforts, please contact Caitlin Crowe Doelp at 215.746.2167 or ccrowe@upenn.edu.
WELCOME NEW FACULTY

Zelma Chiesa-Fuxench, MD, MSCE
Dr. Chiesa-Fuxench received her MD from the University of Puerto Rico School of Medicine, where she completed her residency and fellowship. She has served as an Instructor and Post-Doctoral Fellow at Penn Dermatology since 2013. Her research focuses on the comorbidities of patients with inflammatory skin diseases, the correlation between psoriasis and skin cancer and atopic dermatitis.
Joining July 2016

Paul Haun, MD, MS
Dr. Haun received his MD from the Medical College of Georgia and completed his internship at Providence Portland Medical Center. He joined Penn Dermatology as a Dermatopathology Fellow in 2015 after a successful residency at Oregon Health and Science University. His clinical and research interests lie in medical dermatology, specifically in the study of the clinicopathologic correlation of cutaneous lymphomas.
Joining July 2016

Joseph Kist, MD
Dr. Kist received his MD from the University of Medicine and Dentistry of New Jersey and has been a member of the Associated Faculty here at Penn Dermatology since 2005. He has served as Preceptor of the HUP Dermatology Residency Clinic as well as Director of Medical Student Education. Prior to joining our full-time faculty, Dr. Kist operated a successful private practice in South Jersey with a clinical focus on general dermatology.
Joining July 2016

Sasha Stephen, MD
Dr. Stephen received her MD from the University of Pennsylvania Perelman School of Medicine and completed her internship in Medicine at the Hospital of the University of Pennsylvania. She joined Penn Dermatology as a resident in 2013 and has served as Co-Chief Resident over the past year. Her interests lie in complex medical dermatology and inpatient consults, and she is heavily involved in our global health initiatives here at Penn.
Joining September 2016

Junko Takeshita, MD, PhD
Dr. Takeshita received her MD and PhD in Molecular Cell Biology from Washington University in St. Louis, MO. She completed her internship and residency at University of Washington Affiliated Hospitals in Seattle, WA and joined Penn Dermatology as a Post-Doctoral Research Fellow in 2011. Dr. Takeshita has clinical and research expertise in chronic inflammatory diseases and studies health disparities, including socioeconomic status in patients with psoriasis.
Joining July 2016

Susan Taylor, MD
Dr. Taylor received her MD from Harvard Medical School and completed her residency in dermatology at Columbia Presbyterian Medical Center. Dr. Taylor has run a successful private dermatology practice in Philadelphia for over 15 years and is actively engaged in the Penn community, recently serving on the Penn Medicine Board of Directors. She specializes in treating the unique dermatologic concerns in skin of color.
Joined February 2016
Penn Medicine Study Points to Financial & Racial Barriers to Biologic Treatments for Medicare Patients with Moderate to Severe Psoriasis

In a study published in the December 2015 *Journal of Investigative Dermatology*, Penn dermatologists Jun-ko Takeshita, MD, PhD and Joel Gelfand, MD, MSCE, along with their collaborators, were the first researchers to look at the correlation between socioeconomic status and therapies received for patients with moderate to severe psoriasis. Biological therapies are a highly effective treatment for this disease, but limited insurance coverage and high out-of-pocket costs have served as a barrier to some, particularly black patients on Medicare. Instead, these patients resort to less effective treatments for a disease that has no cure. Future studies will need to address the underlying causes of such disparities, particularly whether or not patients are correctly educated on their condition, as well as if physicians are clearly communicating the benefit of biological therapies.

Penn Study Identifies Enzyme Key to Link Between Age-Related Inflammation & Cancer

Penn dermatologist Brian Capell, MD, PhD, who is currently a medical fellow in the lab of Shelley Berger, PhD, and his collaborators published the results of their recent study involving enzymes and tumor-promoting inflammation in a recent issue of *Genes & Development*. For the first time, researchers have shown that an enzyme key to regulating gene expression -- and also an oncogene when mutated -- is critical for the expression of numerous inflammatory compounds that have been implicated in age-related increases in cancer. Inhibitors of the enzyme are being developed as a new anti-cancer target. Dr. Capell and his collaborators found that genetic and pharmacological inhibition of the enzyme, called MLL1, in both human cells and mice prevents the deleterious activation of the DNA damage response and causes senescence-associated secretory phenotype, which is the secretion of such inflammatory compounds as cytokines, growth factors and proteases.

Penn Assistant Professor Urges Physicians to Help Victims of Torture Seeking Asylum

In the March issue of *JAMA Internal Medicine*, Penn dermatologist Jules Lipoff, MD and his collaborators stressed the importance of the physician’s role in aiding refugees attempting to secure asylum in the United States. For refugees that have proof of torture through medical documentation, their application for asylum is twice as likely to be accepted. When appropriate, forensic medical evaluations may be used to corroborate episodes of trauma. Asylum-seekers who receive medical evaluations along with legal support have success rates of 79 to 89 percent, compared to the national average of 37.5 percent, suggesting that the medical assessments have a substantial effect on the application process. Such medical documentation of torture could include the following: scars compatible with whipping, an injury to the arms known as brachial plexus palsy causing significant loss of function, and bone fractures. In the United States, official asylum evaluations comprise an oral history, physical exam and review of records. Physicians record their findings in a medical affidavit, including thorough descriptions, photographs and/or drawings. The affidavit is submitted as corroborating evidence in court. On occasion, the physician may also testify as an expert witness.

Atopic Dermatitis Linked to Changes to Microorganisms

Elizabeth Grice, PhD, in her partnership with Penn Vet as a member of the One Health team is studying atopic dermatitis (AD), a chronic inflammatory skin condition affecting millions of people worldwide, from a novel perspective. One Health recognizes the similarity in diseases between animals and humans and works to integrate knowledge between veterinarians, researchers and physicians to advance the study of ailments common to both. In the case of AD, there is much more similarity between humans and canines than, for example, humans and mice because of the Staphylococcus bacteria involved. The One Health team’s study, published in *Journal of Investigative Dermatology*, shows that canine AD mimics immunological and clinical characteristics of human AD and can serve as a useful model in developing future therapeutics. Researchers hope to use transplants of the microbiome, instead of antibiotics, to compete with the harmful bacteria that populate the skin during AD flares.
AWARDS & HONORS

Our talented faculty members receive numerous awards and recognition for their outstanding contributions and achievements

Edward Chan, MD
Received the Duhring Clinic Attending of the Year Award from the Penn Dermatology Residents

George Cotsarelis, MD
Received a Lifetime Achievement Award from the Mancunian Skin Club in Manchester, England
Appointed to the boards of the American Skin Association and Dermatology Foundation

Rosalie Elenitsas, MD
Received the Walter R. Nickel Award for Excellence in Teaching of Dermatopathology from the American Society of Dermatopathology

Joel Gelfand, MD, MSCE
Received a presidential citation for psoriasis research at the AAD annual meeting
Promotion to Full Professor, Tenure Track, as of July 1, 2016

Ellen Kim, MD
Received the 2016 Lindback Award from University of Penn
Previous Derm recipients include Drs. Edward Bondi, Bernett Johnson and Gerald Lazarus

Mark Bechtel, MD
Received the Bernett (Bernie) Johnson Teaching Award from the Penn Dermatology Residents

Carrie Kovarik, MD
Elected to the American Dermatological Association
Misha Rosenbach, MD
Selected as a new member of the Academy of Master Clinicians, the highest clinical honor bestowed on a Penn Medicine physician

Christopher Miller, MD
Promotion to Associate Professor, Clinician-Educator Track, as of July 1, 2016

Aimee Payne, MD, PhD
Elected to the American Society for Clinical Investigation

David Margolis, MD, PhD
Received the Founders Award from the American Dermatoepidemiology Network (ADEN)

John Seykora, MD, PhD
Elected to the American Dermatological Association

Alain Rook, MD
Received the Louis Duhring Outstanding Clinical Specialist Award from Penn Medicine
Received the 2016 Clinical Research Achievement Award from the Clinical Research Forum

Misha Rosenbach, MD
Selected as a new member of the Academy of Master Clinicians, the highest clinical honor bestowed on a Penn Medicine physician

Rudolf Roth, MD, MPH
Received the Special Dean’s Award from Perelman School of Medicine
Promotion to Full Professor, Academic Clinician track, as of July 1, 2016

Adam Rubin, MD
Elected to the American Dermatological Association

Christopher Miller, MD
Promotion to Associate Professor, Clinician-Educator Track, as of July 1, 2016

John Seykora, MD, PhD
Elected to the American Dermatological Association

Aimee Payne, MD, PhD
Elected to the American Society for Clinical Investigation

James Treat, MD
Received the Provost’s Award for Teaching Excellence by non-standing faculty at the University of Pennsylvania
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DEPARTMENT OF DERMATOLOGY
ASSOCIATED FACULTY 2016
DUHRING GRAND ROUNDS SCHEDULE

JUNE - AUGUST 2016

JUNE 2, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

Todd Ridky, MD, PhD
Joseph Sobanko, MD

JUNE 9, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

Christopher Miller, MD

JUNE 16, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

Michael Ming, MD

JUNE 23, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

Shobana Sood, MD

JUNE 30, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

Edward Bondi, MD

JULY 7, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

Jane Altman, MD
Debra Jih, MD

JULY 14, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

Danielle DeHoratius, MD
Charles Meyers, MD

JULY 21, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

Faizan Alawi, DDS

JULY 28, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

Amara Lieberman, MD
Albert Yan, MD

AUGUST 4, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

DuPont Guerry, MD
George Preti, PhD
Elizabeth Spiers, MD

AUGUST 11, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

AUGUST 18, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

AUGUST 25, 2016
9:00 AM - 10:00 AM
Patient Viewing, PCAM, Suite 1-330S
Patient Discussion, SCTR Auditorium

WE'D LOVE TO HEAR FROM YOU!

The Department of Dermatology is committed to staying connected with our talented alumni. Please share with us updates of your recent activities and accomplishments or simply send us your most current contact information so that we can stay connected.

Whether it has been 50 or 5 years since your time with the University of Pennsylvania, we look forward to hearing about all of the exciting things you have been up to. Please e-mail us at the following address:
PennDermAlumni@uphs.upenn.edu