

PENN DERM

SKIN BIOLOGY & DISEASES RESOURCE-BASED CENTER

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WINTER

2021

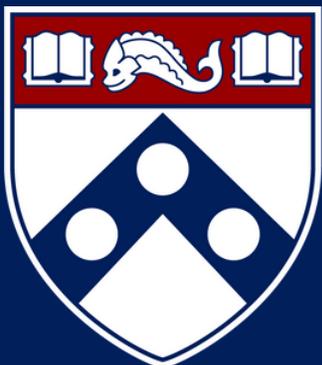
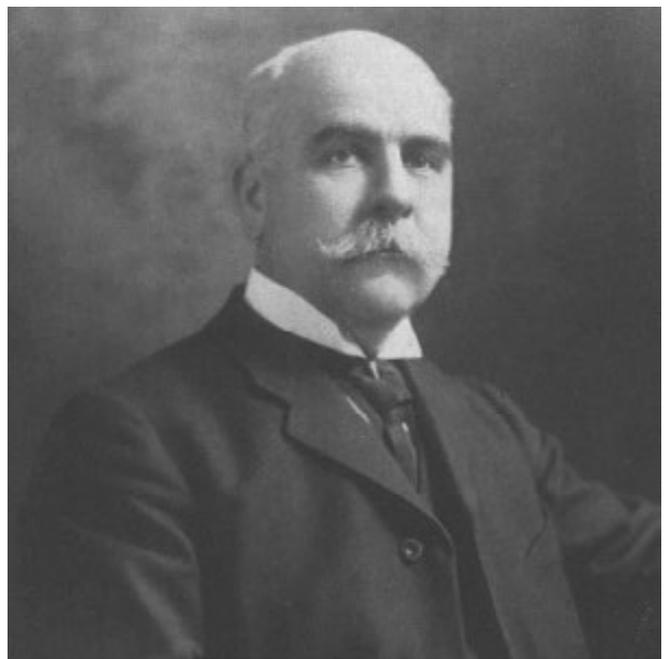


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Portrait of Dr. Milton Bixler Hartzell

Did You Know?

Milton Bixler Hartzell, MD, AB, AM, LLD, became the second Chairman of the Dermatology Department upon the 1911 retirement of Louis Adolphus Duhring, MD. Dr. Hartzell founded the Philadelphia Dermatological Society in 1900, a professional organization that remains active to this day. He is credited with establishing and directing the first “Laboratory of Dermatological Research” at the University of Pennsylvania from 1917-1921. This was the first laboratory in the United States devoted to the treatment and cure of skin diseases. Fred D. Weidman, MD, spoke about Dr. Hartzell’s legacy at the College of Physicians of Philadelphia (1928) and states that “his obvious and downright honesty and devotion to the welfare of dermatology were self-evident.” The Milton B. Hartzell Professorship of Therapeutic Research was created in 1929 to honor his contributions to the University and recognize a departmental leader in scientific inquiry. Chairman George Cotsarelis, MD, currently holds this endowed position.

CHAIRMAN'S MESSAGE

Dear Friends and Colleagues,

We've made it through another year of the pandemic! Thanks to the power of science, we have vaccines and new treatments, all developed in record time. The RNA technology used for the vaccines actually was developed at Penn about 15 years ago. Though by the time you read this, we likely will be in the midst of an omicron surge, but because of these advances, I am confident that we will come out the other side stronger with 2022 turning into a better year.

By working together through the pandemic, the department has continued to excel in its missions of research, clinical care, and education. Overlying and integrated into all our missions is the desire to increase diversity. In this issue of the newsletter, we highlight the work of many of our faculty and how they drive these missions. You will see how the dedication of our faculty, staff and trainees coupled with the resources and opportunities available at Penn creates an environment that fuels innovation, academic productivity, and career advancement. The department moves the entire field of dermatology forward.

Philanthropy plays a major role in our success. Our endowment provides funds that support our research, teaching and academic missions. As the department expands, these funds become even more important. Endowed chairs in particular support the effort of our faculty to train the next generation of clinicians, investigators, and educators in dermatology. Naming an endowed chair also provides a wonderful dual opportunity to celebrate the legacy of an influential faculty member and to recognize the efforts of a current department member. Recently, through many generous donations, we have been fortunate to complete the James J. Leyden, MD, Professorship, which honors Dr. Leyden and solidifies his legacy. Dr. Joel Gelfand, MD, MSCE, a world leader in psoriasis, is the inaugural holder. We will hold an in-person event recognizing Drs. Leyden and Gelfand next year.

After careful reflection and following the Dean's recommendation, we also used existing funds that previously supported the Kligman II chair, to create the Bennett L. Johnson, Jr., MD, Professorship. Dr. Johnson was a long-time Black faculty member in the Department of Dermatology and chief medical officer of the Hospital of the University of Pennsylvania who was a steadfast advocate for diversity, equity, and inclusion. Dr. Susan Taylor is the inaugural Bennett L. Johnson, Jr., MD professor. As a pioneer in skin of color dermatology and as the department's first Vice Chair for Diversity, Equity and Inclusion, Dr. Taylor is advancing clinical research to improve treatment of skin disorders in people of color while leading efforts to increase opportunities for people of color in dermatology. I look forward to continuing to work with her to enhance diversity within our department and our field.



In future issues of the newsletter, I hope to highlight additional endowed chairs we are in the process of naming.

On the research front, you will read about the innovative research of Pantelis Rompolas, PhD who recently published two major scientific papers in back-to-back months in the high impact journal *Cell Stem Cell*. These publications are particularly meaningful to me because as a Penn Medical student, while working in Dr. Robert Lavker's laboratory, we localized the corneal stem cells to the limbus. Dr. Rompolas developed and used an innovative live-imaging technique to revisit and refine our understanding of these stem cells, showing distinct populations of stem and progenitor cells within the limbus. This new methodology has revolutionized the way we study stem cells in the skin as well, and Dr. Rompolas is poised to continue making major breakthroughs in regenerative medicine and wound healing.

Lastly, the 34th Annual Donald M. Pillsbury, MD, Lectureship was held virtually this year, and honored our graduating residents who all played a major role in the department's response to COVID-19. We wish them luck as they begin their careers

As you read about the research, awards and leadership of our faculty, we say thank you to colleagues and community who make this work possible.

We wish all of you all the best for a happy, healthy holiday season and a wonderful New Year!

Sincerely,

A handwritten signature in blue ink, appearing to read "George Cotsarelis". The signature is fluid and cursive.

George Cotsarelis, MD
Milton B. Hartzell Professor and Chairman

SUSAN C. TAYLOR, MD, FAAD:

ADVANCING DIVERSITY, EQUITY, AND INCLUSION IN DERMATOLOGY

The increased call for national racial equity has prompted questions about the role of medicine in a stratified society. The rapid rise of COVID-19 critically underscored the discrepancies in healthcare among individuals living in the United States. The growing need for a broader, more inclusive workforce to treat an increasingly diversified public is more evident than ever. As the first Department of Dermatology in the country, Penn Dermatology is a leader advancing not only the specialty, but medicine in its entirety. Over the last few years, Penn Dermatology has made a concerted effort to lift voices of those underrepresented and take inventory of the ways we can improve healthcare for our colleagues, trainees and patients. As a pioneer in skin of color dermatology, **Susan Taylor, MD, FAAD**, has been instrumental in instituting these initiatives both at the University of Pennsylvania and for dermatology nationally.

Like many clinicians, Dr. Taylor “always knew [she] wanted to be a physician” and had an “interest in diversity, equity and inclusion.” She graduated with honors from the University of Pennsylvania in 1979 and earned her MD from Harvard Medical School in 1983. From the beginning, she was certain she wanted to work with diverse populations that were experiencing higher rates of diabetes, hypertension, and other forms of cardiovascular disease. It wasn’t until her fourth year of medical school that she was introduced to dermatology, where she says she became “smitten with the specialty” but decided to hold course and pursue a career in internal medicine. Dr. Taylor matched into an internal medicine residency at Pennsylvania Hospital and became a board-certified internist. During this training, she realized practicing dermatology offered a type of medicine that excited her, so she pursued a second residency in dermatology at Columbia Presbyterian Medical Center.

After becoming board-certified in dermatology, Dr. Taylor worked in the private sector for a few years before she was approached by faculty from her residency at Columbia and asked if she would be interested in creating a center focused on meeting the dermatological needs of people of color. Dr. Taylor served as the founding director of the Skin of Color Center at St. Luke’s-Roosevelt Hospital in New York City



Portrait of Dr. Susan C. Taylor

from 1999-2009. This experience established her interest in academic medicine. Since Dr. Taylor completed her training at Columbia, she has worked in a wide array of institutions, making a palpable difference in enhancing quality of care for patients of color. In doing so, she has created a framework for a new subspecialty in dermatology: “My interests and passions merged with outstanding opportunities, thus allowing me to pursue and develop those areas and make a significant impact.”

To further research on an international level, Dr. Taylor created the Skin of Color Society in 2004. This professional organization provides networking, mentorship, and educational resources in order to “promote awareness of, and excellence within, skin of color dermatology.” This is the first international organization to be founded on the mission to

increase research opportunities to understand dermatologic presentation of disease in individuals with skin of color and support members with educational programming so they can better serve the needs of their patients. Through conferences, scholarships, and grants, a network of professionals actively work to further “information about all aspects of skin of color within the specialty of dermatology and to the general population.”

Dr. Taylor joined our department as a full-time faculty member in 2016 and was named as Director of Diversity, Equity and Inclusion for the Department in 2019. Given her dedication and talent in that area, she became Vice Chair for Diversity, Equity, and Inclusion for the Department in 2020 and was also named the Sandra J. Lazarus Associate Professor of Dermatology. This endowed position was created to support the academic development of a female physician “distinguished by intense creativity and demonstrating remarkable compassion, humanity, and social commitment.” This was a significant occasion for both Dr. Taylor and Penn Dermatology because it marked the first time an endowed professorship was awarded to a woman of color in the Department.

When asked what sort of advice she was given when pursuing a career in academic medicine, Dr. Taylor notes that there were very few individuals who were themselves underrepresented in medicine (UIM) at that time of her training. Diversity “really wasn’t discussed in any significant way,” explains Dr. Taylor. “I went to school to become a practitioner, because that was really the only path I saw.” Representation is a critical component of reaching equity, as it provides models that aspiring physicians and researchers can identify with. One way that representation makes a direct impact on the trajectory of future providers is through mentorship. Fortunately, Dr. Taylor notes that “there is a huge emphasis on [mentoring] now.”

Penn Dermatology prides itself on developing students and junior faculty. Its robust mentorship structure supports the development of junior faculty. Overall, mentors act as guides and role models for future leaders in our field, and Dr. Taylor has used her position to lift UIM voices and foster a

“Dr. Taylor stands out as a dedicated clinician and clinical researcher who is passionate about providing opportunities and helping those in need. She has greatly enhanced and coalesced the department's diversity efforts with a thoughtful and collaborative approach. She obviously cherishes all of her roles in the department and I look forward to continuing to work with her as we advance diversity initiatives that will have a major impact on dermatology.” –George Cotsarelis, MD

culture of inclusivity. A crucial component of diversifying the dermatology workforce includes creating opportunities for exposure of students to the specialty early on in their education. “At Penn, we meet with first- and second-year medical students to make them aware of the specialty of dermatology early in their medical school experience,” says Dr. Taylor. Under the auspices of the Alliance of Minority Physicians (AMP), the Department of Dermatology established a visiting clerkship program for UIM medical students interested in Dermatology. This opportunity gives a fourth-year medical student the opportunity to spend a month at Penn Dermatology, meet with the Residency Program Director, network with other UIM residents who are participating in the program from different departments, and provides mentorship to be better prepared for interview and match season.

Community engagement remains an integral part to creating space for the development of UIM voices in medicine. Not only has Dr. Taylor been pivotal in pioneering and enhancing mentorship opportunities for members of the department, but she has also spearheaded and supported existing opportunities aimed at further exposing young people to dermatology and medicine. For example, under the leadership of **Elizabeth Grice, PhD, John Seykora, MD, PhD, and Jamie Shuda, EdD**, the Department created and continues to support the Penn Academy for Skin Health (PASH), which introduces Philadelphia high schoolers to laboratory techniques, biomedical ethics, and dermatology. Students from



Left: Members of PASH Cohort learning laboratory techniques

PASH are subsequently offered paid summer research positions at both Penn Dermatology and Thomas Jefferson University and given further opportunity to generate a network of support as they enter higher education. The Penn [Netter Center](#) for Community Partnerships hosts a variety of programs, including the Health Sciences Educational Pipeline Program, to teach local high school students about opportunities in medicine. Dr. Taylor and Temitayo Ogunleye, MD, have also been actively engaged in this pipeline program. Department members also provide periodic information sessions and lectures to student engagement groups, such as the Student National Medical Association, Latino Medical Student Association, and the Minority Association of Premedical Students. All these efforts aim to educate young folks about the array of work in medicine and dermatology.

Dermatology remains the second least racially and ethnically diverse group of physician specialties. According to the [American Academy of Dermatology](#) in 2015, less than twenty percent of dermatologists self-identified as a person of color, which is nearly half of the percentage of people of color residing in the United States. Reevaluating residency application review processes holistically provides an opportunity for institutions to directly increase diversity in the field to better represent the public it serves. Significantly, Dr. Taylor assisted in creating an innovative Diversity and Community Engagement Position for our residency training program. This program is “committed to reducing healthcare disparities and working to combat



Right: The 2018 PASH Cohort (Photos taken pre-pandemic)

racism and prejudice in all forms.” This provides a three-pronged approach including addressing social determinants of health, engaging to empower under-served communities, and promoting diversification of the field.

Alarming, from an [interview](#) in May, Dr. Taylor cites a study that reports over fifty percent of practicing dermatologists and residents felt inadequately trained to treat conditions in Black patients. Dr. Taylor created both specific clinics and training programs to familiarize learners on the topic, a [crucial component](#) to addressing these disparities. This has directly benefitted residents at Penn who get involved in the clinics aimed at emphasizing presentation of dermatologic disease in disenfranchised communities and engage with DEI research, conferences and lectures. In addition to these initiatives that benefit all trainees, Dr. Taylor has been awarded numerous mentorship grants through institutions like the American Academy of Dermatology and Skin of Color Society that are used to support students and junior faculty in developing expertise in treating patients with skin of color.

It has been documented that individuals with skin of color face challenges in receiving the correct diagnoses in dermatological care. One of the primary causes of this is the [disproportionate lack](#) of educational materials that exist to train providers on identifying and treating melanized or richly pigmented skin. This systemic shortfall requires a top-down remedy. Thus, in addition to her departmental work, Dr. Taylor is an active leader in the American Academy of Dermatology, the largest professional group of dermatologists in the United States. She has served on



*Dr. Taylor treating a patient in one of Penn Dermatology's specialty clinics
(Photo taken pre-pandemic)*

numerous committees over the past 30 years and is the former Vice President of the organization. In addition to serving as co-chair for multiple committees at the AAD, Dr. Taylor was part of an initiative to create a curriculum that consists of seventy 20-minute videos broadly educating practitioners on treating skin of color. Another important effort in this work is the many editorial positions she holds: “we encourage our medical journals to make sure they publish more articles related to skin of color.” It is anticipated that the majority of individuals in the United States will be non-white by 2050, so we need to ensure that the dermatological workforce meets the demands of an increasingly diverse patient population.

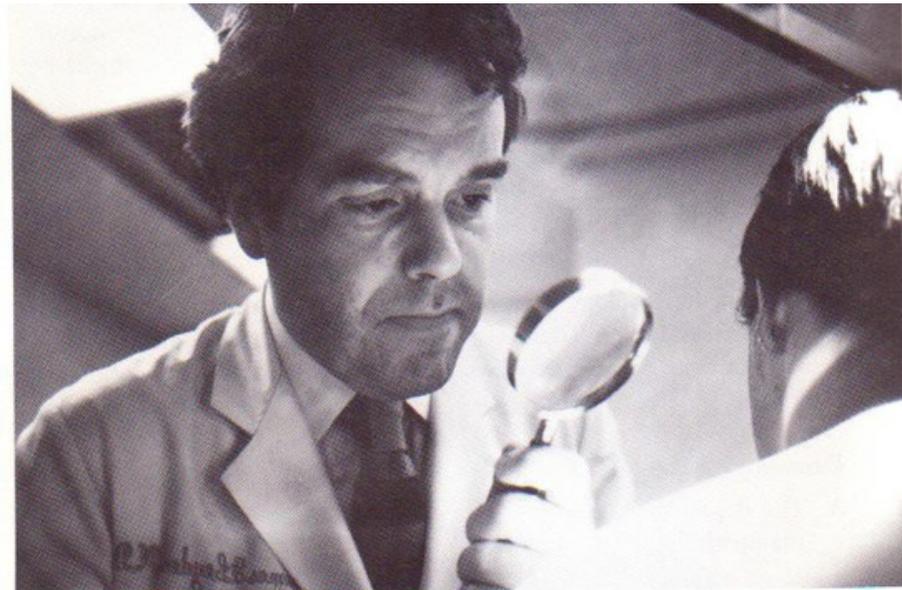
In recognition of the tremendous impact she has had on advancing care for all, Dr. Taylor will serve as the inaugural holder of the Bennett L. Johnson, Jr., MD Professorship. Dr. Johnson was a highly respected physician-educator and administrator for the University of Pennsylvania Health System. He was a professor of dermatology, senior medical

officer for the Hospital of the University of Pennsylvania, and associate dean for diversity and community outreach.

“For me, what’s been particularly gratifying is the fact that we’re having conversations about race. We’re having conversations about diversity equity and inclusion. We have made some major steps,” states Dr. Taylor. While there are certainly further strides to be made in medicine, Dr. Taylor has used her role as a leader in the field of dermatology to create a sub-specialty and make momentous changes institutionally and nationally. Her determination and persistence in advancing knowledge regarding healthcare of disenfranchised populations has made a tremendous impact not only on patients, but for present and future members of the workforce. Importantly, Dr. Taylor says, “I am very excited and optimistic about the future.”

To further support Diversity, Equity, and Inclusion initiatives in the Department, please visit the [Skin of Color Fellowship Fund](#).

Introducing the James J. Leyden, MD, Endowed Professorship in Clinical Investigation



In 2009, William D. James, MD, Interim Chair of Dermatology, proposed the James J. Leyden, MD, Endowed Professorship in Clinical Investigation to further distinguish Penn Dermatology as a leader in translational discovery and to honor the legacy of one of Penn's finest physicians. The Department of Dermatology is proud to announce that initial funding goals have been met and the inaugural James J. Leyden, MD, Professor will be Vice Chair of Clinical Research Joel Gelfand, MD, MSCE.

Dr. Leyden spent over four decades actively engaged in patient care and clinical investigation at the University of Pennsylvania. Beginning in the early 1970s, Dr. Leyden was Chief of Clinical Services, during which time he served as a primary teacher, caregiver and inpatient consultant. His leadership is well known and easily evidenced by his transformation of the small, fledgling Dermatology Foundation into the robust research funding organization today. Additionally, Dr. Leyden is credited as instrumental in the development and commercialization of a variety of topical and oral medications for acne, fungal and bacterial infections and his research is cited in more than 300 scholarly publications.

"I am honored and humbled by the establishment of this Professorship. I was very lucky as a medical student to discover the field of dermatology, which was on the cusp of making fundamental advances in the understanding and treatment of skin disease. Penn dermatology has been, and will continue to be, a leader in making advances in clinical research," states Dr. Leyden. This position creates the opportunity for an exceptional researcher to develop treatments with international scope. Its purpose further advances the mission of the Department as the leading intellectual center for understanding and treating all aspects of skin and its diseases. The fund has been supported by over fifty donations. We are grateful for everyone's support.

A special thank you to all who have contributed to the James J. Leyden, MD, Endowed Professorship

Dr. Herbert B. Allen
 Dr. Mitchell Anolik & Ms. Nathalie Anolik
 Dr. Ercem S. Atillasoy
 Dr. Alison S. Avram
 Dr. John O. Barton & Mrs. Jean A. Barton
 Dr. & Mrs. Andrew Blauvelt
 Dr. & Mrs. Edward Bondi
 Drs. Bruce & Jennifer Brod
 Dr. Loren T. Burns
 Dr. Harold L. Colburn, Jr.
 Dr. George Cotsarelis & Ms. Marian K. Schneider
 Dr. & Mrs. Michael J. Dans
 Mr. Eugene H. Gans
 Dr. Walter Graham & Ms. Cynthia Graham
 Dr. Stephen Hess
 Dr. Warren R. Heymann & Dr. Rhonda E. Schnur
 Dr. & Mrs. William D. James
 Dr. Seth Gerald Kates
 Dr. & Mrs. E. Michael Kramer
 Dr. Gerald S. Lazarus
 Dr. Stuart and Karen Lessin
 Dr. & Mrs. James J. Leyden
 Dr. Lian-Jie Li & Dr. Chuying Luo
 Dr. Philip J. Lopresti
 Dr. Howard I. Maibach
 Dr. David J. Margolis & Dr. Fay D. Wright
 Dr. Gregory Messenger
 Dr. Jeffrey L. Messenger
 Dr. Timothy Murphy & Dr. Christen Mowad
 Drs. Janet & Michael Prystowsky
 Dr. Hilary L. Reich
 Dr. Howard Rosenman
 Dr. & Mrs. Rudolf Roth
 Dr. Adam Rubin
 Dr. John J. Schmidt
 Drs. Leslie Stewart & Stuart Senkfor
 Dr. & Mrs. Michael Shapiro
 Dr. William K. Sherwin
 Dr. Ronald Nevin Shore
 Dr. & Mrs. Stephen A. Solotoff
 Dr. Travis Lynn Warthan
 Dr. & Mrs. Linton A. Whitaker
 Drs. Richard & Sandra Wortzel
 Dr. Albert C. Yan & Dr. Grace S. Ong Yan

Avon Products, Inc.
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 Merck & Co., Inc.
 Vanguard Dermatology, PC

PARTNERING WITH PENN DERMATOLOGY

Penn directs the field of dermatology forward through personalized care and therapeutic advances. The Department of Dermatology works continuously to develop new techniques and therapies through research and to educate the next generations of outstanding physicians and researchers. To maximize our expertise and potential, improvements to our research infrastructure are required. Basic, translational, and clinical research activities are the hallmark of our clinical care and patient outcomes. With significant philanthropic investments, the Department will continue addressing pressing medical challenges in dermatologic care and will be instrumental in improving diagnoses, new surgical techniques, and quality of life. Lastly, offering the best multidisciplinary care for our patients remains a top priority.

Department of Dermatology Fundraising Priorities

Pilot Research Projects

Honoring Leaders

As the oldest dermatology department in the country, Penn Dermatology has been shaped by many great leaders whose legacies live on through their scientific breakthroughs. Established in 1874 by Dr. Louis Duhring, Penn Dermatology follows the traditions of many great 19th and 20th century physician-researchers who work collaboratively and across disciplines, such as with the school of engineering. As a contributor to pilot research projects in cutaneous regeneration, Penn investigators gain the ability to impact patients worldwide with novel approaches to skin diseases, innovative treatments, and potential for cures.

Fellowship Training Programs

Supporting New Investigators

Penn Dermatology's training programs attract the most outstanding candidates, developing leaders in dermatologic research, academic, and clinical dermatology. Funds directed toward fellowship training programs guarantee Penn Dermatology's long tradition of educating exceptional scientists and physicians.

Endowed Professorships

Rewarding Innovation

Supporting the work of Penn's physician-scientists is one of the highest priorities. Endowed professorships in investigative dermatology provide Penn Dermatology with the ability to retain and attract exceptional faculty. Penn's preeminent dermatologists and researchers consistently receive recognition for excellence in patient care, research discoveries, and education. Endowed professorships are instrumental for the success of the Department's faculty and their important work.

Community Education Fund

Inspiring the Next Generation

Penn Dermatology is committed to serving youth in the Philadelphia community. Through programs like the Penn Academy for Skin Health (PASH), high school students are offered an invaluable STEM experience - working side-by-side with our nationally renowned experts in the laboratory, as well as participating in college workshops.

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.

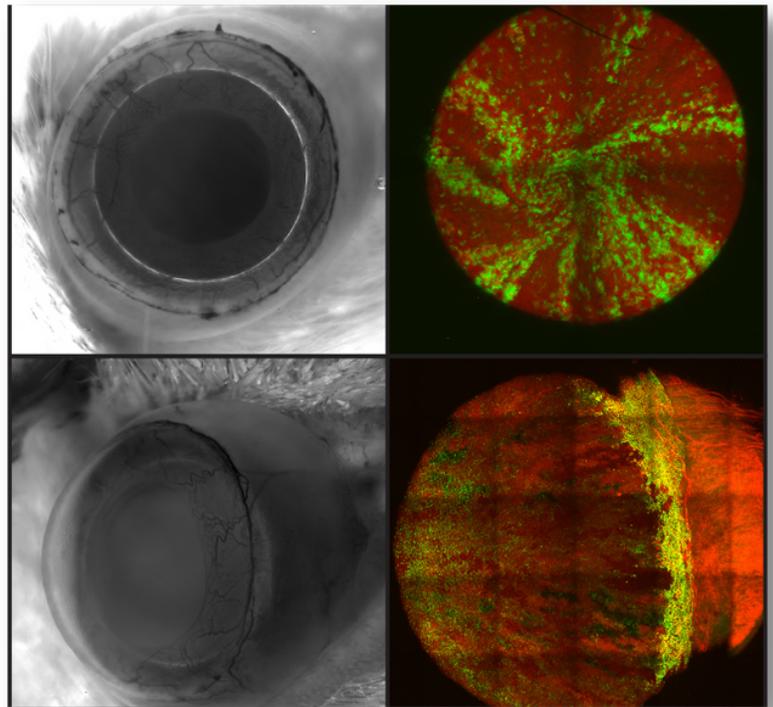
Philanthropic gifts of all sizes to support our research, educational, and clinical endeavors are greatly appreciated. Naming opportunities within the Department begin at the \$25,000-level. Additionally, any gift can be given outright, through a planned giving vehicle, or can be structured to be paid over a 5-year period.

For more information about partnering with Penn Dermatology, please contact **Caitlin Doelp**, Senior Director of Development at **(215) 746 - 2167** or **ccrowe@upenn.edu**.

ROMPOLAS LAB: EYES ON THE PRIZE [OF DISCOVERY]

In the Summer 2016 Newsletter, the Dermatology Department announced that Assistant Professor **Pantelis Rompolas, PhD, MBA**, would pioneer a state-of-the-art live imaging laboratory with a mission to develop novel experimental approaches to study stem cells and their role in skin regeneration and disease. Five years later, our commitment to Dr. Rompolas has paid dividends as he has made groundbreaking discoveries in these areas. He has recently published two papers in *Cell Stem Cell*. The most recent work from the Rompolas Lab has elucidated discrete stem cell populations in the eye surface epithelium and demonstrated their diverse functions in the maintenance and regeneration of the cornea, the transparent tissue in the front of the eye whose integrity is critical for vision. This study was the product of a collaboration between Dr. Rompolas and **Vivian Lee, MD**, Assistant Professor of Ophthalmology and co-director of the William C. Frayer Ophthalmic Pathology Laboratory at the Scheie Eye Institute. In addition to providing critical biological insights, their study sets a new paradigm, allowing researchers to directly visualize and interrogate stem cell activity in the eye of live mice in real time.

Dr. Rompolas completed his PhD in Biomedical Sciences at the University of Connecticut. He began a career in stem cell research while completing his postdoctoral training in the laboratory of Valentina Greco, PhD, at Yale University. This research established novel live imaging approaches for skin research and demonstrated how stem cells orchestrate hair growth and the regeneration of the skin epidermis. Dr. Rompolas considers himself a cell biologist working to decipher molecular and gene pathways to



Live images of murine eyes with lineage tracing.

Photo courtesy of the Rompolas Lab.

leverage cellular mechanisms for therapeutic uses. The imaging methodologies and animal models, which he initially developed for skin studies, were found to easily translate to researching stem cells in the corneal epithelium. “Given the similarities between the skin and eye epithelia, in terms of barrier function and histological organization, curiosity about corneal stem cells naturally arose,” says Dr. Rompolas.

Interestingly, this is not the first time a department member has studied stem cells in both the skin and the eye. “George [Cotsarelis] is like the Godfather in our field,” explains Dr. Rompolas. While a medical student and postdoc working with Robert Lavker, PhD, **George Cotsarelis, MD**, now Chairman and Milton B. Hartzell Professor of Dermatology, conclusively identified stem cell populations in both the hair follicle and cornea. Now, with the Rompolas Lab’s advanced imaging approaches, researchers are revisiting outstanding questions and aiming to further understand the role of corneal stem cells in eye physiology and regeneration. As Dr. Rompolas states, “Three decades later, we have different technology and in science, technology enables us to break barriers and dissect the complexities of biological systems further. We can confirm previous questions and then refine them.”



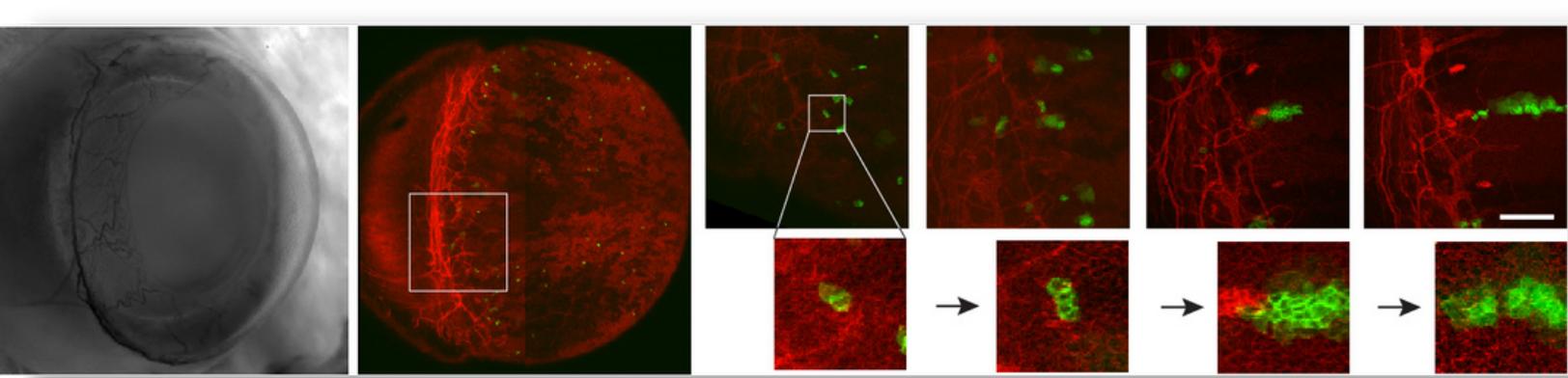
From left to right: **Pantelis Rompolas, PhD, MBA; Olivia Farrelly, PhD; Vivian Lee, MD**

A common approach to studying stem cells in live organs includes a process called lineage tracing. Cells are selectively and irreversibly tagged to express a fluorescent protein, which is then inherited to its progeny when that cell divides. The conventional process for studying these cells would include dissecting the tissue to obtain a sample for histological analysis. This conventional approach requires biopsying or sacrificing the animal and only provides a single snapshot in time. Significantly, it prevents researchers from directly tracking the same stem cells to resolve their dynamics and contribution to tissue regeneration over long periods of time.

"The eye is a really beautiful organ to do basic research on. It's a small, transparent organ so everything is visible and contained within a small space. It's something we can view in its entirety. It's also important for viability and so the body has developed strategies to heal wounds extremely efficiently." -Dr. Rompolas

The Rompolas Lab spent their first couple of years refining their imaging methodology and developing new reporter mouse lines relevant to both the skin and the cornea. Two-photon microscopes, like the one used in their study, can penetrate deep into the living mouse's tissue without damaging the cells or the surrounding structures. Images are obtained at different depths of the tissue and three-dimensional models can be generated. This enables researchers to view stem cells in their native environment and analyze their dynamics during tissue regeneration by directly tracking the same cells and their progeny over time. While previous researchers have certainly used various imaging modalities to study the eye and other organs, achieving single-cell resolution in living animals and being able to re-image the exact same cells at different times without disrupting the tissue physiology is truly revolutionary. Once the appropriate experimental protocols were developed, Dr. Rompolas and his team began observing the various stem cell populations in the cornea.

Previously, Dr. Cotsarelis had demonstrated that corneal stem cells were located in the limbus, the border between the transparent cornea and the opaque



Cornea epithelial stem cell lineage tracing over time. Photo courtesy of the Rompolas Lab.

conjunctiva. Dr. Rompolas' study confirmed those original findings and further revealed the mechanism by which the limbal stem cells generate progeny to maintain and replenish the cornea over time. With increased insight from tracking stem cell activity over time, Dr. Rompolas and his lab also showed that these are not a homogenous population of stem cells. Rather, the limbus comprises at least two distinct populations: one that is constantly generating progeny, moving centripetally towards the center of the cornea and replenishing the tissue, and a second adjacent population, which they named outer limbal stem cells, that is normally quiescent. The Rompolas Lab demonstrated that this quiescent population became activated and contributed to the wound healing process when significant damage was done to the cornea.

“We were really excited for these findings, not only for their implications, but for how we can use this information to inform novel therapeutic strategies to address an unmet need for patients whose only current option is corneal transplantation” explains Dr. Rompolas. “Generally, in Regenerative Medicine we are trying to understand how stem cells operate in their own environment so we can then put them to work ourselves doing things we want them to do.” Another interesting aspect from this study is the concept of “active” and “reserve” stem cell populations cohabitating in various tissues. A quiescent population in the hair follicle, termed “bulge stem cells”, was previously described in Dr. Cotsarelis' research. These cells are akin to “outer limbal stem cells” demonstrated by Dr. Rompolas in the eye since both stem cell types are activated and produce progeny to contribute to wound healing. This appears to be an emerging theme

in stem cell research: stem cell compartments are often subdivided into active and quiescent pools which serve diverse functions for maintaining our organs and orchestrating their repair after injury. Dr. Rompolas notes, “We can learn a lot by comparing and contrasting different tissues. By understanding the similarities and differences, we can really take [research] to the next level.”

“In essence, this study was a foundational study for us. It was first an opportunity to work on our approach. We consider this a resource in the field that others should be able to follow. For us, this provided not only a toolbox but also a wealth of observational data that we’re now going to use to come up with hypotheses that explain what we observed.” -Dr. Rompolas

Currently, the Rompolas Lab has several active research awards from both federal and private organizations, indicating the promising future for the continuation of this research. Mechanisms of action must be understood so researchers can leverage therapies to meet the growing clinical needs. “To treat disease, we first need to uncover all the cell types that make up a biological system and understand how they work together to enable its normal function. Then we can ask how their behavior goes awry during disease and what strategies we can devise to bring them back,” explains Dr. Rompolas. To learn more about Dr. Rompolas and his research, you can visit the Rompolas Lab's website [here](#).

A CHECK-IN WITH CHOP'S SECTION OF DERMATOLOGY

The Section of Pediatric Dermatology at the Children's Hospital of Philadelphia (CHOP) has always promoted a mission of innovative, world-class care. In recent years, CHOP has prioritized multidisciplinary (multi-D) care programs to provide state-of-the-art, integrated care for patients with complex medical conditions requiring several subspecialists. Within pediatric dermatology, our team has identified several diseases that would benefit from such care and have built multispecialty care programs to support our patients and their families over the past several years. Below we highlight these programs and share information on how to refer your pediatric patients who may benefit from our multi-D clinics.

Allergy-Immunology-Dermatology Multidisciplinary Clinic:

Our Allergy - Immunology - Dermatology Clinic specializes in treating patients with the most severe atopic dermatitis. **James Treat, MD**, serves as the dermatology representative for this monthly clinic. Through group consultation, we pinpoint the multifactorial causes and exacerbators of severe atopic dermatitis due to allergic contact dermatitis, environmental/food allergy, immune deficiency, and genetic syndromes, among others. *To schedule an appointment, please call (267) 425-3335 and speak to Carolyn Murphy.*

Comprehensive Vascular Anomalies Program:

With the help of a substantial grant from the Frontier Program at CHOP, care for patients with vascular anomalies has been re-organized into a new Vascular Anomalies Program (CVAP) under the leadership of pediatric hematologist-oncologist **Denise Adams, MD**. **James Treat, MD**, is the dermatology representative for this weekly multi-D clinic that combines over 15 subspecialties, including a core team of dermatology, oncology, plastic surgery, interventional radiology and genetics. Here, we care for many different vascular lesions and syndromes including capillary malformations, congenital hemangiomas, PiK3CA related overgrowth, kaposiform hemangioendothelioma, lymphatic malformations, and many others. *To schedule an appointment, please call (267) 426-9188 and press 1 to schedule an appointment with Tressa Hobart.*

Epidermolysis Bullosa Multidisciplinary Clinic:

Children with epidermolysis bullosa (EB) can now receive care in a state-of-the-art, interdisciplinary clinic at CHOP. In 2017, **Marissa Perman, MD**, developed this clinic with the support of a Chair's Initiative Grant supported by CHOP and the Department of Pediatrics. This multi-D clinic consists of an intensive afternoon where patients can visit with multiple specialists within the dermatology clinic including wound care, gastroenterology and nutrition, pain team, psychology, physical and occupational therapy and social work. Additionally, the clinic is supported by a child life specialist, research coordinator, and dedicated EB nurse. The EB Multidisciplinary Clinic also coordinates appointments for families to see other specialists, including dental, general surgery, hematology, ophthalmology, ENT, and plastic surgery. CHOP hosted its first annual EB Family Fun Day in 2019 and will continue to host this special day for families yearly when COVID precautions are relaxed. The EB program at CHOP now follows over 100 children with EB who hail from local, national, and international locations. *To make a referral, please call Valerie Bertele at (215) 590-1930 or email EBclinic@chop.edu.*



Members of the Epidermolysis Bullosa Multidisciplinary Clinic

Back Row (Left to Right): Francis W. Kraemer, MD, Terry McGovern, RN, Judith Stellar, MSN, CRNP, CWOCN, Christi Strawley, MSN, CRNP, FNP-C, Lydia Rawlins, MEd, OTR/L, Jessica Collins, PsyD, Cathryn Sibbald, MD

Front Row (Left to Right): Kerri Recker, MOT, OTR/L, Marissa Perman, MD, Elizabeth Maxwell, MD, Colleen Vicente, RD, LD, CNSC

Photo taken pre-pandemic.

Pigmented Lesion Clinic:

The pediatric Pigmented Lesion Clinic is a multidisciplinary collaboration that cares for children with challenging melanocytic tumors, including large congenital melanocytic nevi, atypical Spitzoid tumors, melanocytic tumors of unknown malignant potential, melanoma, and melanoma predisposition syndromes. This multidisciplinary team is led by **Melinda Jen, MD**, and includes core team members such as dermatopathologist **Adam Rubin, MD**, and pediatric oncologist **Theodore Laetsch, MD**. Upon referral to the clinic, the collaborative team reviews existing specimens and determines a management plan. Additionally, a collaboration with the Division of Genomic Diagnostics at the Children's Hospital of Philadelphia allows for molecular testing to facilitate a personalized approach to each tumor. *Referrals to the Pigmented Lesion Clinic can be directed to the clinic coordinator, Jacqueline Kelly, at kellyjm@chop.edu or (215) 590-1461.*

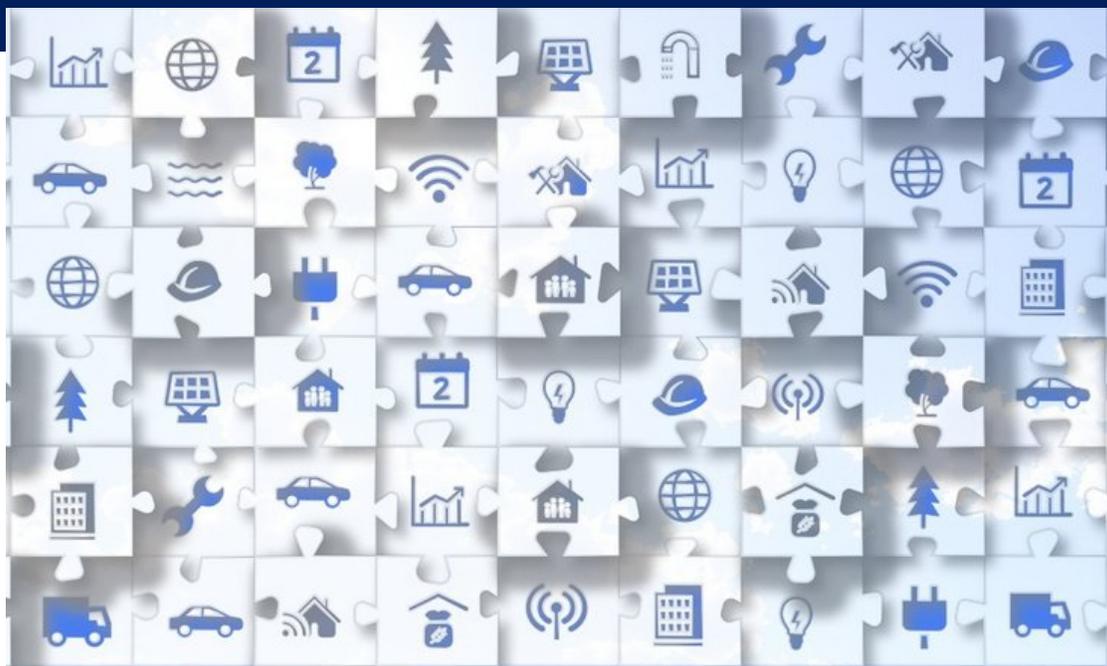
Polycystic Ovarian Syndrome Clinic:

The Polycystic Ovarian Syndrome (PCOS) Clinic at CHOP is held monthly combining endocrinology, dermatology, and nutrition to diagnose and manage adolescents with probable or confirmed PCOS. Patients are evaluated for clinical and biochemical evidence of hyperandrogenism, metabolic syndrome, and menstrual irregularities to confirm the diagnosis. **Marissa Perman, MD**, serves as the dermatologist for the PCOS Clinic. The Clinic uses a combination of traditional medical therapies such as metformin, hormonal therapies and acne therapeutics, as well as lifestyle guidance to improve quality of life. *To refer your adolescent patients with possible or confirmed PCOS, patients may call the CHOP Division of Endocrinology and Diabetes at (215) 590-3147 and ask for an appointment in PCOS Clinic.*



BRIDGING GLOBAL DERMATOLOGY AND COMMUNITY HEALTH

MOLDING RELATIONSHIPS TO MEET A NEW ERA



Even if you can't travel, you can learn a lot from everyone here. I think a lot of residents who are interested in global health volunteer and work in those communities here.

-Carrie Kovarik, MD

The urgency of the COVID-19 Pandemic forced restructuring systems of care: global medical systems saw the sharp uptick in acute medical crises that stressed uneven supply chains and spread a workforce already spread thin even further. Countries with the most resources struggled to care for their populations, experiencing severe shortages in both supplies and personnel. There was a drastic loss of healthcare workers due to burn-out and illness globally. Many prospective patients avoided care altogether in the height of the pandemic for fear of exposure to the COVID-19, preventing imperative proactive community care and further setting back international outreach initiatives and exacerbating access to critical healthcare. Penn Dermatology and global partner sites were also affected by these changes. In the age of unprecedented international digital connection, relationships molded to meet the needs of an uncharted era.

Amy Forrestel, MD, Assistant Professor in Clinical Dermatology highlights, “Every provider in every health system was trying to figure out, as a system under stress, how do we best use our time and take care of people who need it the most, while trying not

to let things slip through the cracks?” When asked how the pandemic has altered approaches to global health, **Carrie Kovarik, MD**, Professor of Dermatology, notes that “it’s the in-person connections that have suffered, unfortunately, like our Resident International Grant through the American Academy of Dermatology.” Dr. Forrestel and Dr. Kovarik co-direct the American Academy of Dermatology’s Resident International Grant (RIG) alongside Dr. Victoria Williams, MD, adjunct faculty in Dermatology. This educational program supplies funding for dermatology residents to complete elective rotations in dermatology clinics and hospitals in Botswana, South Africa, Nepal, and Peru.

Unsurprisingly upon the initiation of world-wide coronavirus restrictions, travel to partner sites such as Princess Marina Hospital came to a halt. The relationship between Penn Dermatology and this Hospital in Gaborone, Botswana is one of our longest maintained collaborations. Since 2008, the RIG program has sent over 150 US and Canadian dermatology residents, including an average of two per year from Penn, to assist local teams with caring for patients in the clinics and hospital. Fortunately, given



the rise of global digital communications over the past decade, relationships with local collaborators have been fostered virtually, as well as in-person. During the COVID pandemic, this technology has allowed collaboration and support to continue even in an age of social distancing.

“COVID certainly hasn’t stopped communication. It has altered the normal dynamics under which we would be working with them and the projects we’d be working [on]...it’s turned us mainly into listeners and supporters,” expressed Dr. Forrestel. In Botswana particularly, WhatsApp on cellular phones has been used for a few years to connect providers on the ground with partners located in Philadelphia. This method has been particularly helpful because it is utilized to communicate directly with patients, allows for easy addition of specialists in case management, and is accessible globally. Digital communication also has provided ways for new partnerships to form: Dr. Kovarik is presently in conversation with a university in Venezuela to develop a collaboration in telemedicine and create opportunities for residents to learn from each other. “There are many

opportunities for global health partnerships that don’t include necessarily being on the ground,” explains Dr. Kovarik.

Overall, Princess Marina’s Clinic has been able to maintain many healthcare operations throughout the pandemic. While there is certainly a decrease in total numbers of patients being seen, the most urgent cases can be and are treated. Similar to the United States, Botswana recently experienced a surge in Delta cases resulting in large disruption to normal activity. In fact, during the last wave, local dermatologists and providers at the Hospital were infected with COVID leading to the closure of some clinics. While this was only a temporary disruption, it underscored the uncertainty that has plagued the globe over the past two years.

Thankfully, this Clinic has integrated into the community by forming relationships over the last decade and a half. With local healthcare workers trained on identification and treatment of dermatologic disease, the need for Penn physicians on site is not necessary for day-to-day operations. In some ways, COVID-19 provided a test of sustainability. Dr. Kovarik has maintained working relationships with providers there since 2007, and Dr. Williams has spent several years on the ground in Gaborone working and training with local providers. Dr. Forrestel explains, “After a lot of hard work from a lot of people, there’s a successful local clinic that’s completely self-sustaining and functioning...that’s a wonderful thing.” In doing so, the healthcare workers of the Princess Marina Hospital underscore the transformative power and impact of long-term relationships focused on building partnerships within local communities.

This example speaks to an overall trend in the global health community. Simply put, “there is an increasing call to focus on and critically analyze what we’re doing in each country with each project and think about how we can empower our partners to take over as much control of those projects as possible so they can be self-

-sustaining,” explains Dr. Forrestel. One way Penn Dermatology locally works to improve community conditions is by providing a world-class education and training to our researchers and physicians. By prioritizing the development of future providers, we ensure an ongoing pipeline of top-notch providers for our patients and for the communities we serve. Working alongside and learning from local providers is instrumental to securing healthcare equity. Empowering healthcare workers to train locally at partner sites is crucial to ensuring local clinical success. Fortunately, with travel restrictions beginning to lift, the AAD has re-opened applications for the Dhulikhel Hospital – Kathmandu University, Nepal for rotations between June and December 2022.

Rudolf Roth, MD, Professor of Clinical Dermatology, is another Department member who has spent the latter part of his career working with partner sites in the global health area. He has used the last two decades to develop relationships with community health clinics in the Western Hemisphere. One of his more recent collaborations include establishing a formal relationship between the Perelman School of Medicine and the State Hospital of Haiti in Port-au-Prince (Hôpital d l'Universite d'Etat d'Haiti) after traveling there for many years. Under this agreement, physicians from Penn or the State University Hospital of Haiti in any specialty can collaborate with one another, including in person exchanges. Penn Derm was preparing to welcome members of their residency program for an exchange in 2020, which has momentarily been placed on hold with the decrease in global mobility. While not a substitute for resident exchanges, Dr. Roth and Associate Professor **Misha Rosenbach, MD**, acquired and shipped new textbooks to residents who had been selected for the exchange and are actively working to find other means of supporting our partners during this time.

Dr. Roth also leads the Dermatology section of the

Penn-Guatemala Partnership Team that was formalized in 2005. One of the tenants of the program includes Penn Derm Residents traveling yearly with Dr. Roth to assist various community clinics throughout the country. Guatemala was hit hard and experienced COVID-19 similarly to the US: like remote areas in the United States, this global partner site experienced standard challenges in treating a population that is widely spread out and cut-off by physical barriers to access. There were multiple waves that caused extreme disruption in daily activity. “The first wave resulted in massive shutdowns: the Hospitalito Atitlan was closed for pretty much two months. They did not have a lot of governmental support in terms of financing.” Compounding to the closures, movement within the country was limited to specific days of the week and monitored by local enforcement. There was a severe shortage of personal protective equipment for healthcare workers, who experienced a higher rate of COVID, and ultimately led to a significant loss of the medical workforce.

A key piece of the Penn-Guatemala partnership is the relationship between Penn Dermatology and INDERMA Guatemala, the local residency training program. This affiliation promotes cooperation in research and education programs among faculty and graduate medical education trainees. Despite the challenges of the last few years, Dr. Roth reports that the program is “flourishing” and transitioning to a digital application process which has significantly increased the number of students applying for an INDERMA residency. Again, this reiterates how technology can be harnessed to meet ever-changing dynamics, and the role prioritizing educating the next generation of local providers plays in establishing sustainable community dermatologic care. Presently, Penn Dermatology Residents have a trip planned to travel with Dr. Roth to partner with INDERMA on a service trip to Guatemala in February.

In 2018 when asked about the goals of the Penn-Guatemala Partnership, Dr. Roth stated, “we build relationships - relationships that have great impacts on the communities we aim to serve.” These relationships extend beyond provider and community members, but also extend between local Guatemalan providers and Penn physicians. Dr. Roth has been working alongside some of the same physicians in Guatemala for over a decade and considers many of them friends. Throughout the pandemic, Dr. Roth maintained communication with many of his international colleagues to keep up with the health and safety of their families. Thankfully, vaccines have been made more readily available, and the healthcare workers and staff have been 100% vaccinated as of this point.

In Peru, Dr. Roth worked with the Alexander von Humboldt Tropical Medicine Institute of the Universidad Peruana Cayetano Heredia and the University of Alabama at Birmingham to develop the Gorgas Course in Tropical Dermatology. This week-long continuing medical education course aims to familiarize providers with clinical presentations of dermatologic tropical disease and is limited to twenty participants to maximize in-person learning opportunities. Ultimately, the goal is to foster a network of experts of dermatological care prepared and committed to addressing the gaps in treatment of tropical dermatological disease in the global health field. Peru experienced extreme disruption in services, with the Department of Dermatology at Universidad Peruana Cayetano Heredia entirely shutting down for a few months. Given that the in-person courses were put on hold, Penn further supported this initiative by providing funding for a digital speaker series that can continue to engage providers without being physically present at the von Homboldt Tropical Medicine Institute.

While the overall damage assessment from the COVID-19 Pandemic is far from being thoroughly



Amy Forrestel, MD
Assistant Professor of Clinical
Dermatology



Carrie Kovarik, MD
Professor of Dermatology



Rudolf Roth, MD
Professor of Clinical
Dermatology

understood, the last two years have provided opportunities to utilize global partnerships to meet the needs of an unprecedented era. Working with technology and long-term partners, Penn Dermatology has strengthened relationships while exploring new ways of being involved. This has provided an opportunity for residents in the Global and Community Health track to focus on engaging with communities locally. As Dr. Kovarik explains, “One thing we have done in terms of the Global Health Track training for our residents is reflecting back on our own community health....a lot of the things we treat in global health is translated perfectly to community health. Even if you can’t travel you can learn a lot from everyone here. A lot of our residents who are interested in global health can volunteer here and work in those communities here. We’ve been trying to emphasize that, as well.”

The Department’s Global Health work is generously supported by the Kramer Fund, which provides resources for both faculty development and resident travel expenses. To donate to the Global Health work of the Department, please visit the [Global Health Dermatology Fund](#).

THE 34TH ANNUAL DONALD M. PILLSBURY, MD, LECTURESHIP

The 34th Annual Donald M. Pillsbury, MD, Lectureship in Dermatology was held on May 13th, 2021. This lecture celebrates the life and leadership of Dr. Pillsbury, who worked to expand the purview of the dermatologic field to include the biochemical causes of skin disorders. His contributions to the field helped to raise the prestige of dermatology in the scientific world, the government, and the public. His publications are considered dermatologic classics, and in addition to his scientific contributions, Dr. Pillsbury was renowned for his principles, with little tolerance for pretentious behavior.

Dr. Iona J. Frieden, MD, presented this year's lecture entitled, "What I thought I knew About Vascular Birthmarks and What I've Learned Along the Way". Dr. Frieden is a Professor of Clinical Dermatology and Pediatrics and serves as Vice Chair of Dermatology at the University of California, San Francisco (UCSF). She is a pediatric dermatologist and world-renowned specialist in children's skin diseases. After earning her medical degree at UCSF, she completed residencies in both pediatrics and dermatology. Dr. Frieden has more than 35 years of experience caring for children with skin conditions as common as eczema and diaper rash to rare genetic disorders and complex disease syndromes. She is a founding member and has served as Director for the Division of Pediatric Dermatology. Dr. Frieden cares for children with birthmarks and has a special interest in those originating from abnormal blood vessels, including hemangiomas and vascular malformations. She directs the UCSF Birthmarks & Vascular Anomalies Center, which she helped found in 1991.



Above left: Donald M. Pillsbury, MD

Above right: Iona J. Frieden, MD

Outside of her work at UCSF, Dr. Frieden served as an editor-in-chief of the journal *Pediatric Dermatology*. She has held many leadership positions for national organizations, with some examples including working as President of the Society for Pediatric Dermatology, the Board of Directors of the American Academy of Dermatology (AAD), steering committee of the Leadership Institute of the AAD, and on the Scientific Assembly Committee, which plans AAD educational meetings. She is a founding member of the Pediatric Dermatology Research Alliance (PeDRA) and presently serves on its Executive Committee.

The Donald M. Pillsbury, MD, Lectureship traditionally honors our graduating residents and fellows, wishing them well on the next chapters of their journeys. Given the current circumstance, this year's Pillsbury lecture was held remotely through the help of Zoom Cloud Meetings, while the dinner with the graduating students was held in-person. Although we were all saddened to not have the opportunity to learn from each other in person for the lecture, we are grateful to have been able to celebrate in any capacity and thank Dr. Frieden for joining us. We send our biggest congratulations to the graduated fellows and residents on their outstanding accomplishments, and we wish them luck in their future endeavors!

Hails and Farewells

Hail to our incoming residents and fellows!

RESIDENTS

Medical School
Internship



SUPRIYA RASTOGI, MD

**Feinberg School of
Medicine, Northwestern
University**
*Beth Israel Deaconess
Medical Center*

FELLOWS

Medical School
Residency



CORBETT BERRY, MD, PHD

**Drexel University College of
Medicine**
Lankenau Medical Center



LEO WANG, MD, PHD

**Perelman School of
Medicine, University of
Pennsylvania**
Pennsylvania Hospital



JAMES ABBOT, MD

**Drexel University College
of Medicine**
University of Utah



LEAH COHEN, MD

**Herbert Wertheim College
of Medicine, Florida
International University**
University of Southern Florida



YIXIN ALLY WANG, MD, MBE

**Perelman School of
Medicine, University of
Pennsylvania**
Pennsylvania Hospital



ANGELA J. JIANG, MD

**Loyola University Chicago
Stritch School of Medicine**
Henry Ford Health System



WILLIAM LEWIS, MD

Harvard Medical School
*University of California,
Los Angeles*



JENNY WEI, MD

**Perelman School of
Medicine, University of
Pennsylvania**
Massachusetts General Hospital



JUNQIAN ZHANG, MD

**Perelman School of
Medicine, University of
Pennsylvania**
*Hospital of the University of
Pennsylvania*

Future endeavors of graduating residents & fellows:

Christina Del Guzzo, MD: Joined Penn Dermatology as an Instructor

David Dunaway, MD: Joined a private practice in Pennsylvania

Christoph Ellebrecht, MD: Joined Penn Dermatology as an Instructor and member of the Payne Lab

Matthew Hedberg, MD, PhD: Joined Penn Dermatology as an Instructor and member of the Seykora Lab

Anna Kersh, MD, PhD: Joined Penn Dermatology as an Instructor and member of the Leung Lab

Mary Larijani, MD: Joined CHOP as Faculty Member

Lauren Mihailides, MD: Joined Sutter Health System in Sacramento, CA

Brittany Oliver, MD: Joined a private practice in Kansas City

Supriya Rastogi, MD: Joined Penn Dermatology as a Resident

Joanna Walker, MD: Joined Penn Dermatology as a Mohs Surgeon

Margaret Wat, MD, PhD: Joined Banner Health in Arizona as a dermatopathologist

Junqian Zhang, MD: Joined Penn Dermatology as a Micrographic Surgery and Dermatologic Oncology Fellow

THE 22ND ANNUAL BERNARD L. HOHENBERG MEMORIAL LECTURE

Due to the COVID-19 pandemic, the Bernard L. Hohenberg Memorial Lecture was postponed in 2020. Given the ongoing uncertainty, we were grateful to virtually host the twenty-second annual Hohenberg Memorial Lecture this year. On Thursday, June 3rd, 2021, the Department welcomed Marjana Tomic-Canic, PhD, to present “New Twists and Old Plots: Mechanisms that Control Cutaneous Wound Healing and its Inhibition” regarding her latest research in cutaneous wound healing.

Dr. Tomic-Canic has dedicated her life to improving the lives of patients. She began her career in healthcare with a degree in pediatric nursing, graduating as the valedictorian of her class at the School of Nursing in Belgrade. She earned a second bachelor’s degree in molecular biology and physiology, wherein she focused on chromatid exchange in cancer pathogenesis. Dr. Tomic-Canic completed her doctoral training in biology and physiology at a combined University of Belgrade and New York University School of Medicine program.

Presently, Dr. Tomic-Canic serves as the Vice Chair of Research for the Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery at the University of Miami Miller School of Medicine and Director of the Wound Healing and Regenerative Medicine Research Program. She is the inaugural holder of the William H. Eaglstein, MD, Endowed Chair in Wound Healing at Miller. This position is only the second of its kind nationally. In addition to dermatology, Dr. Tomic-Canic is a professor and faculty member in Microbiology and Immunology, Molecular and Cellular Pharmacology, and Genomics and Human Genetics graduate programs at Miami. Prior to joining the University of Miami, Dr. Tomic-Canic was Director of the Tissue Repair Laboratory at the Hospital for Special Surgery, Scientific Director for the University of Miami, Dr. Tomic-Canic was Director of the Tissue Repair Laboratory at the Hospital for Special Surgery, Scientific Director for the Wound Healing Center at Columbia University and taught at Weill Medical College of the Cornell University and NYU School of Medicine, where she still holds an adjunct position.



*Above left: Bernard L. Hohenberg
Above right: Marjana Tomic-Canic, PhD*

Over the last two and half decades, Dr. Tomic-Canic has prioritized translating science from bench to bedside. She has conducted high-impact research at the intersection of genomics and epithelial regeneration resulting in over 150 peer-reviewed publications and seven patents. Her specific research interests lie in inflammatory skin diseases, non-melanoma skin cancers, wounds, and chronic ulcers, including venous leg, diabetic, and pressure ulcers. The National Institutes of Health has consistently funded Dr. Tomic-Canic’s research for over twenty years and currently supports her research with seven ongoing grants. She is the Chair of the Arthritis, Connective Tissue and Skin Study Section of the NIH.

History:

This Lectureship honors the memory of Bernard L. Hohenberg. Despite facing with numerous adversities throughout life, including being jailed by the Gestapo at age 14, Mr. Hohenberg was a jovial and caring individual. Later, Mr. Hohenberg lived with leukemia for nearly a decade before being diagnosed with lung cancer. Despite awareness of the terminal nature of his condition, Mr. Hohenberg continued to live in a way that “his zest for life galvanized all those who had the privilege of knowing him.” During treatments, Mr. Hohenberg developed a pressure ulcer that was defiant of all expert treatment. According to those that knew him, Mr. Hohenberg loosely stated about his ulcer, “I understand people are working all over the world to find a cancer cure, but why doesn’t somebody find a better way of fixing what really bothers me?!” Upon his passing, Mrs. Pixie Hohenberg endowed the Department to promote research in wound regeneration annually.

HIGHLIGHTS OF DISCOVERIES



Melanin Matters: 25 Black Dermatologists You Should Get to Know and Follow

In July, Allure Magazine featured 25 Black dermatologists that are leaders in caring for skin of color. Vice Chair of Diversity, Equity and Inclusion **Susan Taylor, MD, FAAD**, and Associate Director of Diversity Equity and Inclusion **Temitayo Ogunleye, MD, FAAD**, were both highlighted for their contributions to the field.

Rates of Serious Infection Differ Among Psoriasis Therapies

A recent study out of France examined the differences in infection rates in patients receiving various biologic and targeted agents when treating moderate-to-severe psoriasis. Vice Chair of Clinical Research **Joel Gelfand, MD, MSCE**, commented on the research in Medpage Today.



Retinol Does Not Cause Depression, Experts Say

Misinformation online claimed that retinol can cause depression. **Carrie Kovarik, MD**, is quoted, “They're over the counter for a reason. That's because they're not as potent, they're not as helpful, they're not going to do as much as something that's prescription.”

What Are PFAS Chemicals, and Why Are They In Makeup?

Many waterproof, sweatproof and long-wearing cosmetics contain higher levels of a class of chemicals called perfluoroalkyl and polyfluoroalkyl. **Bruce Brod, MD**, commented on the potential toxicity of these products, and calls for more FDA analysis on the potential biological impacts of these compounds.



Investigation into Skin Microbiota Reveals Mechanisms of Barrier Function and Repair

By studying mice that lacked the keratinocyte aryl hydrocarbon receptor (AHR), Vice Chair of Basic Science Research and Director of the Penn SBDRC **Elizabeth Grice, PhD**, and members of the Grice Lab have uncovered some of the mechanisms behind barrier function and repair in the skin.

HIGHLIGHTS OF DISCOVERIES



How Microbiota Controls and Repairs Skin

Aayushi Uberoi, PhD, a postdoctoral fellow in Dermatology, and Vice Chair of Basic Science Research and Director of the Penn SBDRC **Elizabeth Grice, PhD**, utilized germ-free mice to demonstrate the interplay between the skin's microbiome and barrier/function repair of the skin.

Wildfire Smoke is Hurting Your Skin

Vice Chair of Education **Misha Rosenbach, MD**, is the Chair of the Climate Change and Environmental Affairs Expert Resources Group of the American Academy of Dermatology. In this article, Dr. Rosenbach explains how the impacts of wildfire on skin is likely poorly understood due to the number of patients who go to the emergency room and not dermatology clinics for treatment.



Opioid Prescriptions After Mohs Surgery Dropped Over Last Decade

Cerrene Giordano, MD, was senior author on a paper examining the opioid prescription rates after Mohs surgery. Working with department coauthors **Jeremy Etkorn, MD**, and **Thuzar Shin, MD, PhD**, the study reports that there was a corresponding uptick in opioid prescriptions following Mohs surgery paralleling the country's ongoing opioid epidemic, but continued awareness campaigns have brought those rates down.



NIH Awards David Margolis, MD, PhD, U01 to Study Acne in Women

Vice Chair of Faculty Affairs **David Margolis, MD, PhD**, has been awarded a Research Project U01 Grant to study the differences in treating moderate to severe acne in women. This study will compare effectiveness of spironolactone and other systemic medications such as oral antibiotics.



National Psoriasis Foundation Provides Funding to Study Cardiovascular Disease

Vice Chair of Clinical Research **Joel Gelfand, MD, MSCE** has been provided with four years of funding to study cardiovascular (CV) disease and mortality in patients with psoriasis or psoriatic arthritis. This study proposes a new model where providers (dermatologist or rheumatologist) check for CV risk factors and refer patients to care coordinators for education to see if it lowers CV risk.



New Faculty Leadership



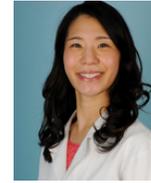
BRUCE BROD, MD

Continuing Medical Education (CME) Lead Peer Reviewer for Perelman School of Medicine



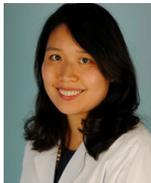
CATHERINE BROWN, MD

Co-Director of Allergic Contact Dermatitis Services



JULIANA CHOI, MD, PHD

Associate Director of Resident and Fellow Wellness



EMILY CHU, MD, PHD

Director of Dermath Residency Education



ANALISA HALPERN, MD

Co-Chair of EMR Steering Committee



ELLEN KIM, MD

Director of Photopheresis and Cutaneous T-cell Lymphoma Program



NICHOLAS MOLLANAZAR, MD, MBA

Director of Access



SARA SAMIMI, MD

Vice Chair of Quality and Safety



KATHERINE THACKER STEELE, MD

Co-Director of Dermatology 300 Course

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- Alopecia
- Adnexal Tumors
- Genetic Skin Disorders
- Nail Disorders & Histopathology of the Nail Unit

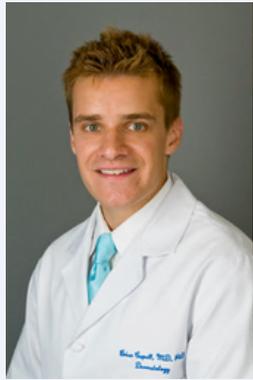
- Tropical & Infectious Dermatologic Conditions
- Cutaneous Lymphoma

Oral Pathologists with specialties in:

- Inflammatory & Autoimmune Mucosal Lesions, Oral Preneoplasia and Cancer

Notable Faculty Awards & Honors

**Awards from May 16th, 2021 - November 15th, 2021*



BRIAN CAPELL, MD, PHD

Received a grant from the Penn-Wistar SPORE in Skin Cancer for project "Elucidating the role of ferroptosis in the balance of epidermal differentiation and carcinogenesis"



CHRISTOPH ELLEBRECHT, MD

Received a perfect score of 10 on his recent K08 application



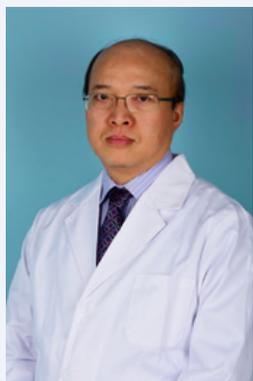
JOEL GELFAND, MD, MSCE, FAAD

Two publications were recognized as "Best in Psoriasis" by the Journal of the American Academy of Dermatology (JAAD)



H. WILLIAM HIGGINS, II, MD, MBE

- Awarded the American Society for Dermatologic Surgery (ASDS) Top Advocate Award;
- Named Treasurer for the Board of Directors of the Philadelphia Dermatology Society;
- Named meeting Co-Chair for the 2022 and 2023 American Society of Dermatologic Surgery (ASDS) annual meeting



MING-LIN LIU, MD, PHD

Selected as a founding Associate Editor of the Journal of Extracellular Biology (JEB), an official journal of the International Society For Extracellular Vesicles (ISEV)



DAVID MARGOLIS, MD, PHD

Received a grant from Pfizer Inc. for project "KIR Allelic Variation and the Prognosis of Atopic Dermatitis in African and European Americans"



TODD RIDKY, MD, PHD

Received a grant from the Department of Defense to examine differences in melanoma mortality on the basis of sex



ALAIN ROOK, MD

Invited to present "Immunotherapy of Cutaneous T-cell Lymphoma" at the Bluefarb Lecture of the Chicago Dermatologic Society



ADAM RUBIN, MD

-Elected Secretary of the Specialty and Service Society Governing Council of the American Medical Association
-Received the 2021 Dermatologist of the Year Award by the Pennsylvania Academy of Dermatology and Dermatologic Surgery



JUNKO TAKESHITA, MD, PHD, MSCE

Received a grant from the National Psoriasis Foundation for project "Identifying Barriers to Participation in Psoriasis Clinical Research Among Racial/Ethnic Minority Patients"



SUSAN TAYLOR, MD

The Skin of Color Society Foundation (SOCSF) and Pfizer Global Medical Grants have awarded the Department of Dermatology a one-year Dermatology Research Fellowship in Skin of Color



JAMES TREAT, MD

Will take on the role of Co-Associate Chair for Information Technology in the Department of Pediatrics; assuming full responsibilities as Associate Chair for Information Technology in July 2022

Doximity has recognized Penn Dermatology as top in the nation for dermatology residency programs.

Congratulations!



Penn Medicine
DERMATOLOGY
Established 1874

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Computational Dermatology



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and Non-Melanoma Skin
Cancer

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Occupational Dermatology

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Roman Bronfenbrener, MD
Part-time
General Dermatology

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Katherine Brown, MD
General Dermatology

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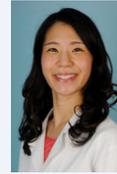
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Dermatopathology, and
Cutaneous Oncology

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Esther Chung, MD
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Specialties

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Cherie Ditre, MD
Cosmetic Dermatology

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Rosalie Elenitsas, MD
Pigmented Lesions and
Melanoma

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Reconstructive Surgery, and
Cutaneous Oncology

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Inpatient Dermatology, and
Global Health Dermatology

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Analisa Halpern, MD
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Specialties

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Paul Haun, MD, MS
Cutaneous T-Cell Lymphoma
and Dermatopathology

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H. William Higgins, II, MD, MBE
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Specialties

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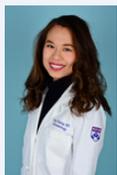
Phillip Holler, MD, PhD
Medical Dermatology and
Disease of the Scalp

(215) 504-7700



Claudia Hossain, MD
General Dermatology,
Cosmetic Dermatology,
Oncodermatology

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Jing Huang, MD
General Dermatology

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William James, MD
Acne, Eczema, and Psoriasis

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Ellen Kim, MD
Various Dermatological
Specialties

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Joseph Kist, MD
General Dermatology

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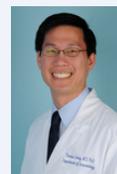
Carrie Kovarik, MD
Various Dermatological
Specialties

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Helen Lee, MD
Various Dermatological
Specialties

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Thomas Leung, MD, PhD
Various Dermatological
Specialties

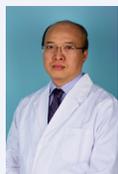
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Jules Lipoff, MD
General Dermatology, HIV,
LGBTQ, and
Immunosuppression
Dermatology

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FACULTY DIRECTORY 2021 (CONTINUED)



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Inflammation and Diseases



Jenna Lullo, MD

Autoimmune Skin
Inflammation and Diseases



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Reconstructive Surgery, and
Skin Cancer
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Cutaneous Oncology
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Temitayo Ogunleye, MD

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Lisa Pappas-Taffer, MD

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Douglas Pugliese, MD

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John Seykora, MD, PhD

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Daniel Shin, PhD

Various Dermatological
Specialties



Thuzar Shin, MD, PhD

Various Dermatological
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Shobana Sood, MD

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Katherine Steele, MD

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**Junko Takeshita, MD, PhD,
MSCE**

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Inflammatory Skin Diseases
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**Jennifer Villaseñor-Park,
MD, PhD**

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Specialties
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Julie Wahrman Cramer, MD

Various Dermatological
Specialties
(215) 504-7700



Joanna Walker, MD

Various Dermatological
Specialties
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Michelle Weir, MD

Various Dermatological
Specialties
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Victoria Werth, MD

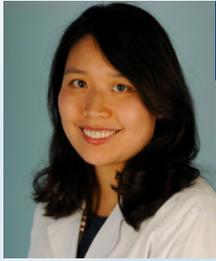
Autoimmune, Blistering, and
Connective Tissue Diseases
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Richard Wortzel, MD, PhD

General Dermatology, Skin
Cancer, Psoriasis, and Eczema
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CONGRATULATIONS TO OUR PROMOTED FACULTY!



EMILY CHU, MD, PHD

Promoted to the rank of
Associate Professor



ROBERT MICHELETTI, MD

Promoted to the rank of
Associate Professor



CHRISTOPHER MILLER, MD

Promoted to the
rank of Professor



TEMITAYO OGUNLEYE, MD

Promoted to the rank of
Associate Professor



LISA PAPPAS-TAFFER, MD

Promoted to the rank of
Associate Professor

ASSOCIATED FACULTY



Paul Gross, MD, PhD
Part-time
Clinical Dermatology and
Dermatopathology
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Melinda Jen, MD
Pediatric Dermatology
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Marissa Perman, MD
Pediatric Dermatology, Epi-
dermolysis Bullosa, & Poly-
cystic Ovarian Syndrome
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Jenna Streicher, MD
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Specialties
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James Treat, MD
Pediatric & Various
Dermatological Specialties
(215) 590-2169

EMERITUS FACULTY



James Leyden, MD
Acne



Sarah Millar, PhD
Signaling Mechanisms and
Regulating and Embryonic
Development of Postnatal
Growth of Skin Appendages



John Stanley, MD
Blistering Diseases and
Pemphigus

DUHRING GRAND ROUNDS SCHEDULE JANUARY - JUNE 2022

Please note that due to COVID-19, Duhring Grand Rounds will continue to be conducted virtually.

Please email PennDermAlumni@uphs.upenn.edu with any questions.

January 6, 2022 7:00-7:50 AM	Virtual Patient Viewing and Discussion	April 14, 2022 7:00-8:00 AM 8:00-9:00 AM	Virtual Patient Viewing and Discussion Lecturer: Karolyn A. Wanat, MD Associate Professor of Dermatology, Medical College of Wisconsin Title: TBD Location: Virtual Session
January 13, 2022 7:00-7:50 AM	Virtual Patient Viewing and Discussion	April 21, 2022 7:00-8:00 AM	*No Duhring Grand Rounds this week* Duhring Lectureship Conference: Health Equity Rounds Panel Discussion: Gender Disparities in Academia
January 20, 2022 7:00-7:50 AM	Virtual Patient Viewing and Discussion	April 28, 2022 7:00-8:00 AM	Virtual Patient Viewing and Discussion
January 27, 2022	*No Duhring Grand Rounds this week*	May 5, 2022 7:00-8:00 AM	Virtual Patient Viewing and Discussion
February 3, 2022 7:00-8:00 AM	Virtual Patient Viewing and Discussion	May 12, 2022 7:00-8:00 AM	Virtual Patient Viewing and Discussion
February 10, 2022 7:00-8:00 AM 8:00-9:00 AM	Virtual Patient Viewing and Discussion Lecturer: Susan M. Swetter, MD Professor of Dermatology; Director, Pigmented Lesion and Melanoma Program; Physician Leader, Cancer Care Program in Cutaneous Oncology; Assistant Chief of the Dermatology Service, VA Palo Alto; Stanford University Medical Center and Cancer Institute Title: TBD Location: Virtual Session	May 18-21, 2022	SID Annual Meeting
February 17, 2022 7:00-8:00 AM	Virtual Patient Viewing and Discussion	May 19, 2022	*No Duhring Grand Rounds this week*
February 24, 2022 7:00-9:00 AM	*No Duhring Grand Rounds this week* Duhring Lectureship Conference: Health Equity Rounds Virtual Workshop: Addressing Discrimination in the Workplace	May 26, 2022 10:00-12:00 PM	Donald M. Pillsbury, MD, 35th Annual Lecture; Lecturer: Paul Khavari, MD, PhD Professor and Chair of Dermatology; Co-Director Stanford Program in Epithelial Biology, Stanford University School of Medicine Title: TBD Location: Virtual Session
March 3, 2022 7:00-8:00 AM	Virtual Patient Viewing and Discussion	June 2, 2022 7:00-8:00 AM	Virtual Patient Viewing and Discussion
March 4, 2022	Philly Derm: Philadelphia College of Osteopathic Medicine	June 9, 2022 7:00-8:00 AM 8:00-9:00 AM	Virtual Patient Viewing and Discussion Lecturer: Ellen Kim, MD Professor of Dermatology; Medical Director, Dermatology Clinic, University of Pennsylvania Perelman School of Medicine Title: TBD Location: Virtual Session
March 10, 2022 8:00 AM-4:00PM 11:00 - 12:00 PM	*No Duhring Grand Rounds this week* Penn SBDRC Symposium and Trainee Research Day; Keynote Speaker: Kathleen J. Green, PhD Professor of Pathology and Toxicology, Feinberg School of Medicine, Northwestern University; Title: TBD Location: BRB Gaulton Auditorium and Lobby	June 16, 2022 10:00-11:00 AM 11:00-12:00 PM	Virtual Patient Viewing and Discussion Bernard L. Hohenberg 23rd Annual Lecture Lecturer: Geoffrey C. Gurtner, MD Professor of Surgery; Inaugural Vice Chair of Surgery for Innovation, Stanford University School of Medicine Title: TBD Location: Virtual Session
March 17, 2022 7:00-8:00 AM	Virtual Patient Viewing and Discussion	June 23, 2022 7:00-8:00 AM	Virtual Patient Viewing and Discussion
March 25-29, 2022	American Academy of Dermatology	June 30, 2022	*No Duhring Grand Rounds this week*
March 24, 2022	*No Duhring Grand Rounds this week*		
March 31, 2022	*No Duhring Grand Rounds this week*		
April 7, 2022 7:00-8:00 AM	Virtual Patient Viewing and Discussion		