The Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Presents:

The 3rd Annual Celia & Samuel Resnik Research Day

Saturday, June 1st, 2019
8:00 a.m. - 6:00 p.m.
Donna Shalala Student Center | Coral Gables Campus
The Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery is hosting its third annual Celia & Samuel Resnik Research Day on June 1, 2019. The event will take place at the newly renovated Shalala Student Center at the Coral Gables Campus from 8:00 a.m. to 6:00 p.m. and will feature presentations by our Department’s faculty, residents and fellows. Scientific poster presentations will also be an integral component of the event.

Department Research Background

Research at the Dr. Phillip Frost Department of Dermatology & Cutaneous Surgery at the University of Miami Miller School of Medicine consists of multidisciplinary basic, translational and clinical research groups. Our research efforts integrate basic science, preclinical studies, drug development, clinical and epidemiologic research. These efforts provide a unique environment in which basic science discovery can be tested in multitude pre-clinical animal models (including primary human; murine and porcine), developed into potential therapy and tested in clinical trials.

The areas represented in our research base include aging, inflammation, microbiology, genomics, pharmacology, biochemistry, cell and stem cell biology, biochemistry and bacteriology as well as clinical areas of research in cutaneous disorders that may be associated with biology/pathology of the eye, gastro-intestinal tract, diabetes, cancer and paralysis, to name a few. Although research expertise includes general skin disorders our major areas of interests are biology, pathology and treatment of wound healing, skin cancers, psoriasis and autoimmune disorders, itch, inflammation and skin infection as well as a wide spectrum of hair disorders. Our goal is to utilize cutting edge technologies to advance science of skin biology and bring new discoveries from bench to patients at the bedside.
AGENDA
The Third Annual Research Day
Saturday, June 1st, 2019

8:00 - 8:30  Breakfast and poster set up
8:30- 8:40  Welcome and opening remarks
8:40 - 9:00  SESSION 1: Who are we and what do we do?
Dragana Ajdic, PhD
Tasuku Akiyama, PhD
Evangelos Badiavas, MD, PhD
Barbara Bedogni, PhD
Prof. Stephen C. Davis
Joaquin Jimenez, MD
Ivan Jozic, PhD
Jie Li, MD, PhD
Mochizuki Hideki, PhD
Leigh Nattkemper, PhD
Ralf Paus, MD
Irena Pastar, PhD
Marjana Tomic-Canic, PhD
Tongyu Cao Wikramanayake, PhD

SESSION 2: Neuroscience and Endocrinology of the Skin
Session Chair: Ralf Paus MD

Speakers:
9:00 - 9:15  Ralf Paus, MD: Unexpected cutaneous benefits of being “stoned”: Human hair follicle epithelial stem cells express cannabinoid receptor 1 (CB1) and depend on its tonic stimulation
9:15 - 9:30  Jérémy Chéret, PhD: Serotonin re-uptake inhibition as a new anti-greying strategy?
9:30 - 9:40  Kristen Sanders, BS: Anxiety-Like Behavior in a Mouse Model of Atopic Dermatitis.
9:40 - 9:50  Kento Sakai, PhD: Role of Aβ-fibers in touch-evoked itch in a mouse model of psoriasis
9:50 - 10:00  Morning Break

10:00 - 10:50  SESSION 3: New Insights into modeling dermatologic diseases and beyond
Session Chair: Robert Kirsner, MD, PhD
Session 3 continued

Speakers:
10:00 - 10:15 Marjana Tomic-Canic, PhD: Mouse Models of Multi-organ Fibrosis
10:15 - 10:30 Mariya Miteva, MD: FFA as a model disease
10:30 - 10:40 Tongyu Cao Wikramanayake, PhD: MPLZ Knockout Mouse as a model to study Metabolic Diseases
10:40 - 10:50 Hideki Mochizuki, PhD: Artificial Intelligence, brain imaging and itch

Session 4: Microbiome and Skin Inflammation
Session Chair: Marjana Tomic-Canic, PhD

Speakers:
10:50 - 11:05 Ivan Jozic, PhD: Aging, Caveolin-1 and skin infection
11:05 - 11:20 Takashi Hashimoto, MD, PhD: Itch in stasis dermatitis: implication of IL-31 from macrophages in response to periostin, substance P, and hemosiderin
11:20 - 11:35 Irena Pastar, PhD: Good and bad germs: health and survival in a wound world
11:35 - 11:45 Benish Ali Syeda, PhD: A study of ACE, eNOS and MTHFR association with psoriasis in Pakistani population
11:45 - 11:55 Takahiro Suzuki, MD, PhD: Differential expression profile of VEGF-A and –C between psoriasis and verruca vulgaris revealed by 2-photon microscopy
11:55 - 1:00 Group Photo & Lunch

1:00 - 2:00 Session 5: Guided Poster Walks
(Drs. Paus, Bedogni and Cao will guide “poster walks”)

Session 5: Resident Research
2:00 - 2:15 Jeffrey McBride, MD, PhD: Resident Keynote Talk: Are exosomes the future of dermatology?
2:15 - 2:30 Naiem Issa, MD, PhD: Computational Applications for Drug Discovery in Dermatology

Session 6: Updates from Clinical Trials and Registries
Session Chair: Leigh Nattkemper, PhD

Speakers:
2:30 - 2:45 Natalia Jaimes, MD: Educational Program in Skin Cancer and Dermoscopy for Primary Care Physicians: Effect on skin cancer diagnosis and referral rates
2:45 - 2:55 Audrey Beirne, MD: Pilot Stem Cell Burn Clinical Trial
2:55 - 3:05 Neda Ghiam, MD, MS: Corrona Psoriasis Registry
Session 6 continued
3:05 - 3:15  Sonali Nanda, BA, MS: A pilot study on a new measure in FFA
3:15 - 3:25  Brian Cahn, MS: Clinical Manifestations, Comorbidities, and Treatments of Patients with Pyoderma Gangrenosum in a South Florida Cohort
3:25 - 3:35  Penelope Hirt, MD: The use of virtual reality in bedside procedures

Session 7: Skin Cancers and Tumor Biology
Session Chair: Barbara Bedogni, PhD

Speakers:
3:35 - 3:50  Barbara Bedogni, PhD: Targeting the tumor/ECM interface to overcome therapy resistance in melanoma
3:50 - 4:00  Julia Escandon, MD, PhD: Melanoma in Translation: Beyond the skin and the bench
4:00 - 4:10  Yuan Li, PhD: Mechanics of Therapy Resistance in Melanoma
4:10 - 4:20  Ali Rajabi-Estarabadi, MD: Factors relating to the development of non-melanoma skin cancers
4:20 - 4:35  Jie Li, MD, PhD: Basement membrane extracellular matrix in skin cancer
4:35 - 5:15  Graduation Ceremony for Research Fellows
5:15  Reception

Poster Presentation List

Jérémy Chéret, PhD:
Mast cell survival and maturation in human skin are regulated and maintained by sensory nerve fibers

Julia Escandon, MD, PhD:
MT1-MMP targeting in melanoma brain metastases

Ali Rajabi-Estarabadi, MD:
Optical Coherence Tomography in Evaluation of Glomus Tumors

Rachel Fayne, BA:
Skin cancer screening using total body photography and digital dermoscopy: a pilot study in firefighters

Ralf Paus, MD:
Repurposing of an ancient hormonal therapeutic for wound healing: Thyroxine promotes human skin re-epithelialization and angiogenesis ex vivo

Christina Kursewicz, BS:
Sex Differences in the Perception of Itch and Quality of Life in Patients with Chronic Pruritus

Nelson Sanchez, BS:
Factors Causing Lack of Diversity in Dermatology Residency Programs: Medical Students’ Perspectives
Division of Research in Skin Biology and Dermatologic Sciences

The division of research consists of more than a dozen dedicated research laboratories for basic and translational research focused on various aspects of skin biology and dermatology. Importantly, each of our full time faculty members is involved in research endeavor, reflecting the culture of research that is integrated in daily practice of dermatology. The research at our Department consists of multidisciplinary basic, translational and clinical research groups. Our research efforts integrate basic science, preclinical studies, drug development, clinical and epidemiologic research, providing unique environment in which basic science discovery can be tested in multitude pre-clinical animal models (including primary human; murine and porcine), developed into potential therapy and tested in clinical trials. Our goal is to utilize cutting edge technologies to advance science of skin biology and bring new discoveries from bench to patients at the bedside.

We provide extraordinary training base for clinical, translational and basic science research. Recently, these efforts are formalized in establishment of a Graduate program that provides Master Degree in Skin Biology and Dermatologic Science: [http://dermatology.med.miami.edu/master-of-science-in-skin-biology](http://dermatology.med.miami.edu/master-of-science-in-skin-biology).

Many of our faculty members are members of PIBS Graduate Program and are mentoring graduate students. In addition, we currently support the Research Residency Program that provides research training in two tracks: PhD-to-Residency and Residency Research Track [http://dermatology.med.miami.edu/research/research-training](http://dermatology.med.miami.edu/research/research-training).

Meet Our Faculty and Learn about Their Research Interests

Alyx Rosen Aigen, M.D.
Assistant Professor
Mohs Surgery, Cosmetic Dermatology, and Laser Surgery
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Dr. Aigen’s clinical interests include dermatologic and oncologic surgery, skin cancer treatment, cosmetic dermatology and laser surgery. Her research interests include optimizing clinical and aesthetic outcomes following oncologic surgery. Dr. Aigen is currently involved in research projects evaluating skin cancer screening in the firefighter population, the use of novel therapeutic modalities for secondary intention wound healing, and laser for aesthetic improvement of surgical scars.
Dragana Ajdic, Ph.D.
Associate Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery
Department of Microbiology & Immunology

Research in Dr. Ajdic’s laboratory focuses on molecular microbiology, biofilms, and bacterial genetics with a special emphasis on regulatory mechanisms controlling gene expression, mechanisms of pathogenesis and biofilm formation by using systems biology approaches (bioinformatics, genomics, metagenomics and transcriptomics). Dr. Ajdic’s team studies bacterial communities infecting chronic ulcers and uses high-throughput sequencing to identify and analyze chronic wound microbiota. Dr. Ajdic’s additional projects encompass studies on oral biofilms implicated in human dental caries.

Tasuku Akiyama, Ph.D.
Assistant Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery
Neuroscience Graduate Program
Human Genetics and Genomics Graduate Program

Dr. Akiyama’s research focuses on the molecular and cellular mechanisms of itch and pain. His NIH funded laboratory employs various in vitro and in vivo research approaches, including genetic tools, optogenetics, chemogenetics, calcium imaging, neuronal tracing, molecular expression profiling, electrophysiology, and multiple behavioral assessments in mice. Dr. Akiyama received Ronald Dubner Research Award from the International Association for the Study of Pain. He has served on the section editor for Acta-Dermato-Venereologica and has also served as an ad hoc member of the NIH study section.

Evangelos Badiavas, M.D., Ph.D.
Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery
Member, Interdisciplinary Stem Cell Institute

Dr. Badiavas’ laboratory combines basic, translational and clinical research on bone marrow stem cells and extracellular vesicles for treatment of various cutaneous disorders including tissue regeneration and wound healing. His federally funded research has focused on using stem cells and their products to treat chronic wounds and burn injuries. He has been actively involved in stem cell, dermatology and translational research for more than 30 years and was among the first to describe the role of bone marrow stem cells in repairing skin in both animal models and patients. He is also among the first to report on the importance of stem cell based extracellular vesicles in skin maintenance, repair and regeneration.
Dr. Bedogni studies mechanisms involved in the development and metastatic dissemination of melanoma. This is of great importance considering that the survival rate of patients with metastatic melanoma is still less than 15%. Goals of her research are: 1) understanding how key embryonic developmental pathways play a role in the pathogenesis of melanoma and what impact they have on tumor mediated immune responses. 2) Understanding the role of the tumor microenvironment and of the tumor-stroma interactions in melanoma resistance to therapy. NIH funded research in her lab has identified Notch1 and ERBB3 as two key embryonic developmental pathways involved in melanomagenesis. Her lab has designed novel anti Notch1 and anti ERBB3 selective inhibitors to test their efficacy in melanoma models of disease, either alone or in combination with current standard of care, including targeted therapy and immunotherapy. The lab has also identified a key role of stromal collagen in triggering survival cues to melanoma cells. The specific targeting of the interface between melanoma cells and the stroma to counteract therapy resistance is an ongoing investigation in the lab. Overall, several projects are being addressed in the Bedogni lab all geared towards identifying the mechanisms that lead to melanoma development and progression as a prerequisite for the development of new, more effective, therapies.

Dr. Burdick's research and expertise focus on telehealth. She has over 20 years of telehealth experience and leads Health's telehealth services in the US and internationally. Dr. Burdick served on the American Telemedicine Association (ATA) Board of Directors, was the founding chair of the ATA Special Interest Group on Teledermatology, on the Telemedicine Journal and e-Health Editorial Board and chaired the development of the first ATA Practice Guidelines for Teledermatology. Dr. Burdick headed the American Academy of Dermatology (AAD) Telemedicine Task Force and spearheaded the AAD’s first position statement on telemedicine and its endorsement of ATA’s Practice Guidelines for Teledermatology. Dr. Burdick provides “store-and-forward” teledermatology consults to crew and guests on 2 major cruise lines and patients in the UM Pediatric Mobile Clinic. Continuing her pioneering role in telehealth, Dr. Burdick was appointed to the Florida Telehealth Advisory Council in 2016 and currently is on the Southeastern Telehealth Resource Center Advisory Board representing Florida and the Clinical Advisory Board of the Washington DC-based Center for Telemedicine and e-Health Law.
Tongyu Cao (Wikramanayake), Ph.D.
Research Associate Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery
Molecular, Cell and Developmental Biology Graduate Program

Dr. Cao is trained in developmental biology and genetics, and has many years of hands-on experience in using mouse and rat models for skin research. She uses transgenic/knockout mice and spontaneous mutants as well as rat models to investigate the pathogenesis of skin and hair disorders. Dr. Cao has also used skin graft as a target tissue for inducible gene expression to explore the feasibility of cell-based regenerative therapy. Her current interests include epidermal differentiation, barrier function, skin appendage development and disorders, and inflammatory skin diseases.

Stephen C. Davis
Research Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Over the three and a half decades of research, Prof. Davis has studied the efficacy of various dressings, growth factors, antimicrobial agents and physical devices on reducing bacterial loads and/or wound healing using porcine in vivo models. This data has helped facilitate the development and approval of numerous products that are on the market today. Prof. Davis was a member of the team that, together with Dr. Eaglstein and Pat Mertz, established a number of porcine wound models, and has extensive expertise in the wound microbiology, quantification of bacteria from wounds as well as the evaluation of the wound healing process using histological and molecular analysis. Prof. Davis has been instrumental in obtaining more than $22M in funding and has published more than 100 peer papers and chapters. Some of the research interests include: occlusive therapy, electrical stimulation, antimicrobials, low energy light therapy, and study of bacterial biofilms. For the past several years he has been funded by DARPA, Canadian Defense, US Army, Office of Naval Research, NIH and NSF.

George Elgart, M.D.
Professor of Dermatology, the Vice-Chair for Education
Director of Dermatopathology Service
Director, Residency Program
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Dr. Elgart is a trained dermato-immunologist, his research and expertise are in the fields of cutaneous oncology and wound healing. He is an author on over 80 peer reviewed articles. A world renowned dermatopathologist, he directs training of students and fellows in histology, immune histochemistry and dermatopathology.
Katlein França, M.D., Ph.D.
Assistant Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Dr. França is the President of the World Health Academy of Integrative Dermatology. She is author or editor of 7 dermatology textbooks including Advances in Integrative Dermatology, Stress and Skin Disorders and Trichotillomania: Clinical Characteristics, Psychological Interventions and Emotional Effects. Dr. França’s research interests include the psychosocial, environmental and therapeutic aspects of skin diseases. She currently runs the Integrative Dermatology clinic focusing on conventional and complementary dermatological therapies and the Environmental and Occupational Dermatology clinic providing testing, diagnosis, and treatment of allergic reactions of the skin.

Shasa Hu, M.D.
Associate Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Dr. Hu was a recipient of the Career Development Award from Dermatology Foundation, and has won multiple awards including awards from the American Academy of Dermatology and American Society for Dermatologic Surgery for her research endeavors. Her main research interests are focusing on melanoma prevention, early detection, and disparity of melanoma among minority populations. Dr. Hu's clinical practice focuses on skin cancer detection and surveillance, skin cancer treatment, concerns of aging and ethnic skin, and skin rejuvenation.

Natalia Jaimes, M.D.
Assistant Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Dr. Jaimes is a dermatologist with specific training, interest and expertise in skin cancer and pigmented lesions, in particular melanoma and nevi. Her research interests focus on non-invasive imaging techniques, such as dermoscopy, total body photography and confocal microscopy, all of which improve early detection of melanoma and other skin cancers. Dr. Jaimes is also interested in disparities of melanoma among Hispanics, and education as a means to improve primary and secondary prevention of skin cancer. Her clinical practice is dedicated to high-risk patients, patients with melanoma and non-melanoma skin cancer, nevi and dysplastic nevi.
Joaquin Jimenez, M.D.
Research Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery
Biochemistry and Molecular Biology Graduate Program

Dr. Jimenez’s research interests include hair biology and pathology, animal models of alopecia, wound healing and mechanisms of folliculogenesis. He has a long-standing track record in working with bone marrow-derived cells, culturing and sorting them. Dr. Jimenez was the first to make the observation on the rat model of Chemotherapy-Induced Alopecia. During that work he realized the similarities between the pilosebaceous unit and the hematopoietic system. In addition, he has extensive experience in working with hematopoietic cells and fluorescent antibodies and was the first to publish on Thrombotic Thrombocytopenic Purpura and fluorescent micro-particles from endothelial cells. Dr. Jimenez’s work resulted in more than 100 publications and his current research is sponsored by venture capitalists and private industry. Dr. Jimenez’s research is focused on the translational aspect of dermatology, with a specific interest in non-cicatricial alopecia, particularly in chemotherapy-induced alopecia, alopecia areata, and permanent alopecia due to chemotherapy. His main area of interest is alopecia in preclinical models, taking the approach “from the bench to clinic”.

Ivan Jozic, Ph.D.
Research Instructor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Dr. Jozic’s research focuses on understanding how specialized cell membrane microdomains (caveolae) affect pathophysiology of various cutaneous disorders. He has extensive experience in endomembrane trafficking & cell biology of wound healing. Dr. Jozic’s recent work has been recognized by Wound Healing Society Young Investigator Award in 2018 and Junior Faculty Award in 2019. He is also a recipient of Brian V. Jegasothy Basic Science Research Award. Dr. Jozic is a PI on several industry sponsored studies focusing on the role of caveolae in wound healing and is a coinvestigator on several NIH projects.

Jonette E. Keri, M.D., Ph.D.
Associate Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery
Chief, Dermatology Services at Miami VA Hospital

Dr. Keri, former NIH research trainee, has authored more than 40 publications in peer-reviewed journals and books. Dr. Keri’s clinical research interests are focusing on developing and understanding treatments for acne, rosacea, as well as photodynamic therapy, cosmetic dermatology.
Dr. Kirsner has dual research interests: wound healing and skin cancer epidemiology. Related to wound healing, Dr. Kirsner has extensive expertise in clinical trials, clinical trial design (with a PhD in epidemiology), and treatment protocols and running multiple large programs in wound healing. Much of Dr. Kirsner’s research is focused on the understanding of pathogenesis and treatment of chronic cutaneous wounds. He has also has interest in skin cancer epidemiology particularly related to disparities and prevention of skin cancer, and is a member of the Cancer Center at the UMMSM. He has published more than 500 original research manuscripts, editorials, or book chapters. Dr. Kirsner has been a leader of major clinical, education, service and research projects. As an example, he directs and organizes the largest wound healing meeting—the Symposium on Advanced Wound Care (nearly 4000 attendees) in the United States annually for the past 23 years, and directed an immensely successfully multi-organization and international wound care relief effort in Haiti.

Dr. Lev-Tov’s research interests focus on clinical and translational research in the area of wound healing. He is specifically interested in developing strategies for the prevention of venous leg ulcers, the most common and costly type of chronic leg ulcers. Additional areas of interest include hidradenitis suppurativa, rosacea, and integrative dermatology.

With PhD training in pathobiology and molecular medicine and clinic training in dermatology and dermatopathology, this combined background of both clinical and basic sciences serves well in the capacity as a principal investigator in dermatology research. Dr. Li’s major research interests include extracellular matrix biology, stem cell biology and angiogenesis. Dr. Li has experience in skin cancer and wound healing research, and expertise in extracellular matrix biology, angiogenesis and skin xenografting and animal
models. Dr. Li’s lab uses advanced cellular and molecular biological approaches to understand pathogenesis of skin disorders, and seeks to improve skin health with genetic intervention and molecular therapeutics. Specifically, Dr. Li’s lab investigates laminin extracellular matrix, cell and matrix interaction, angiogenesis and microenvironment regulation in wound repair and tissue regeneration, aging, skin cancer early diagnosis and treatment.

**Andrea Maderal, M.D.**  
Assistant Professor  
Director, Dermatology Medical Student Education  
*Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery*

Dr. Maderal’s research interests include autoimmune connective tissue diseases, inpatient and consultative dermatology, and wound healing. She started and runs the department’s Autoimmune Connective Tissue Disease Clinic, where she focuses on treatment of patients with complex dermatologic diseases. She is also interested in dermatology education, and is the Director of Dermatology Medical Student Education as well as the Director of the Hansen’s Disease Program. Dr. Maderal is currently involved in research projects on inpatient dermatology consults, small vessel vasculitis, dermatomyositis, psoriasis and wound healing.

**Mariya Miteva, M.D.**  
Associate Professor  
*Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery*

Dr. Miteva’s clinical research interests are focused on histopathology of hair diseases on transverse sections, hair loss, general dermatology and dermatopathology. Her primary objectives are centered on: 1) identifying new findings/patterns in scalp biopsies which help to increase the diagnostic yield and improve management; 2) implementing hair pathology as a mediator between the clinical practice and the bench hair research to improve understanding of the pathogenesis; 3) studying the correlation between dermatoscopic findings and the corresponding pathologic patterns. Dr. Miteva has authored more than 100 peer-reviewed articles in dermatologic journals, two books, numerous book chapters and has presented her research as an invited speaker in national and international forums. She is in charge of JID monthly snapshot quiz.

**Hideki Mochizuki, Ph.D.**  
Research Assistant Professor  
*Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery*

Dr. Mochizuki’s research focuses on the mechanisms of itch and scratch in humans. Specifically, the central mechanism of itch and scratch. Dr. Mochizuki has conducted human brain
imaging studies to better understand the basic brain mechanisms of itch and scratch as well as pathophysiology of chronic itch and pathological scratching using a variety of imaging techniques such as functional magnetic resonance imaging (MRI), positron emission tomography (PET), electroencephalography (EEG) and magnetoencephalography (MEG) as well as non-invasive brain stimulation devices such as transcranial direct current stimulation (tDCS). His current interests include the cerebral processing of itch perception and scratching, cerebral pathophysiology of chronic itch conditions, and the impact of stress on itch and scratch.

**Brian Morrison, M.D.**
*Assistant Professor*
*Assistant Director, Residency Program*
*Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery*

Dr. Morrison is the founder of The Skin Clinic Haiti, a charitable outreach in Port-au-Prince, Haiti. By establishing partnerships with local physicians and hospitals in Haiti, he has improved access to patient care, educated local residents and practicing physicians and raised funds to cover the cost of medical care for disadvantaged patients. Over the past year, he has developed an Oculocutaneous Albinism (OCA) clinic in conjunction with the Albha Foundation of Haiti. This outreach has provided a wealth of epidemiological data to better understand and serve this vulnerable population. Dr. Morrison is also committed to the department’s Clinical and Translational Research Unit. He is currently involved in projects on hidradenitis suppurativa and cosmetic dermatology.

**Leigh Nattkemper, Ph.D.**
*Research Assistant Professor*
*Co-Director, Clinical Trials Unit*
*Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery*

Dr. Nattkemper’s research focuses on the neurobiology of itch. Specifically, the molecular and genetic components of chronic itch diseases such as atopic dermatitis, psoriasis, and neuropathic itch. Her research involves examining itch signaling pathways in the periphery and the brain, the investigation of the neuroanatomy and neurophysiology of chronic pruritus and developing novel therapeutics for itch. She works alongside Dr. Gil Yosipovitch in developing a clinical trial program in skin innovation and itch.
Keyvan Nouri, M.D.
Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery
Louis C. Skinner, Jr., M.D. Endowed Chair in Dermatology
Richard Helfman Professor of Dermatologic Surgery
Director of Mohs, Dermatologic & Laser Surgery
Director of Surgical Training

Dr. Nouri’s study regarding behavioral analysis on sun safety practices for infants received national attention from the media. He has completed and performed many clinical research trials in the areas of lasers for treatment of scars, lasers for treatment of skin cancers, attempting to define the peak absorption of basal cell carcinomas, treatment of acute wounds with artificial skins and lights, etc. He has collaborated with basic scientists in the department of dermatology in a number of translational studies looking for markers in non-melanoma skin cancers. He is the author of 290 peer-reviewed scientific articles, 130 book chapters, and many other publications. Since 1999, he has been an invited speaker, moderator and presenter about 500 times at national and international meetings. He also serves in editorial roles, including editor of the Cells to Surgery Quiz Section of the Journal Investigative Dermatology, Section Editor for Dermatologic Surgery section of the International Journal of Dermatology, and the surgical advisory board for JAMA Dermatology, among others.

Anna Nichols, M.D., Ph.D.
Assistant Professor
Co-Director, Clinical Trials Unit
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Dr. Nichols’ main clinical and research interests are focused on preventing nonmelanoma skin cancer and developing novel, cost-effective ways to treat tumors non-invasively. She spearheads a High-Risk Skin Cancer Clinic dedicated to serving patients at risk for multiple or aggressive nonmelanoma skin cancers, such as solid organ transplant recipients. She was recently awarded the 2018 Skin Cancer Foundation Research Grant to test the novel hypothesis that intratumoral delivery of the 9-valent human papillomavirus vaccine is an effective treatment strategy for cutaneous squamous cell carcinoma. Additionally, Dr. Nichols is the Co-Director of our department’s Clinical and Translational Research Unit where she oversees a team of research coordinators and fellows who support the department’s numerous research projects. She is currently involved in projects on skin cancer chemoprevention and treatment, inpatient and emergency department dermatology consults, psoriasis, hidradenitis suppurativa and androgenetic alopecia. She is a member of the University of Miami’s Institutional Review Board.
Irena Pastar, Ph.D.
Research Associate Professor  
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Dr. Pastar’s research focuses on molecular mechanisms of cutaneous infections and host-pathogen interaction in acute and chronic wounds. She has extensive experience in molecular microbiology and cellular biology of wound healing. Dr. Pastar’s recent work has been recognized by Wound Healing Society Anita Roberts Award as the best manuscript published in 2018. Dr. Pastar is also a recipient of Wound Healing Society Excellence in Translational Science Award. Dr Pastar is a PI on multiple industry sponsored studies focusing on wound infections and a Co-Investigator on NIH and DoD projects.

Ralf Paus, M.D.
Research Professor  
Director, Dermatology Medicine and Science Training Program  
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Trained as a dermatologist in Berlin, Germany, Dr. Paus is a physician-scientist who has specialized in basic and translational hair research since his time as post-doc at Yale University. He is an internationally renowned expert in hair biology and pathology, skin neuroendocrinology, and epithelial stem cells of human skin. Following a distinguished career in clinical dermatology, Dr. Paus has fully focused on preclinical skin and hair research, first as Head of Experimental Dermatology at the University of Lübeck, Germany, then as Deputy Lead and Director of Research of The Centre for Dermatology Research, University of Manchester, UK. He also serves as Editor of Experimental Dermatology (since 2007). Since February, Dr. Paus joined the Department as Professor and Director of the Dermatology Medical Science Training Program. In his research in Miami, Dr. Paus will focus primarily on hair follicle neuroendocrinology and neurobiology, new strategies for the management of alopecia areata, scarring alopecia, and chemotherapy-induced alopecia, and on the role of skin appendages and their stem cells in wound healing.

Paolo Romanelli, M.D.
Professor  
Director, Dermatopathology Fellowship  
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Dr. Romanelli’s major research interests include Psoriasis, Hidradenitis Suppurativa, Vitiligo, Wound Pathology and Toxic Epidermal Necrolysis (TEN). A Clinical and Dermatopathology researcher with a major interest in targeted therapy, Dr. Romanelli’s daily efforts focus on understanding mechanisms and studying potential tissue
Biomarkers of cutaneous diseases. He serves as a Dermatopathologist, and the Director of the ACGME accredited UM Dermatopathology Fellowship Program. He is particularly interested in studying new immunohistochemical markers for formalin-fixed, paraffin embedded skin biopsies. Dr. Romanelli has developed a Wound Pathology service that has more than 1,200 specimens derived from chronic wounds of various etiologies sent to him from more than fifty different wound centers throughout the country. He published more than 90 papers related to wound healing, and pathology of diverse skin diseases. Through skin biopsies and Immunohistochemistry his Dermatopathology efforts are focused at identifying overexpression of molecules that could be potentially targeted with tailor made treatment modalities especially in Psoriasis, Hidradenitis Suppurativa, Vitiligo, Chronic Wounds, Acne and Fillers Reactions.

Lawrence Schachner, M.D.
Professor, Former Chair, & Stiefel Laboratories Chair
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery
Professor of Pediatrics, Director of the Division of Pediatric Dermatology

Dr. Schachner’s major research interests include childhood disorders such as atopic dermatitis, psoriasis, acne, alopecia areata and skin infections such as impetigo. He is also researching inherited childhood disorders such as epidermolysis bullosa. His research focuses on prevention, early detection, and definitive therapy for these disorders. Dr. Schachner has written more than 200 scientific publications. He is the lead author of the Schachner & Hansen textbook, Pediatric Dermatology edition 1 (1988), edition II (1995), edition III (2003), and edition IV (2012), as well as co-author of eight other books. In 2004, Dr. Schachner was named “Practitioner of the Year” by the Florida Society of Dermatology and Dermatologic Surgery. Dr. Schachner’s research interests have included bioengineered skin in pediatric wounds, skin infections and infestations in children, sun protection in childhood, cutaneous signs of child and sexual abuse, and new therapeutic modalities for acne, eczema, and epidermolysis bullosa. Dr. Schachner has also held several leadership positions internationally, nationally, and at the University.

Fernanda Bellodi Schmidt, M.D.
Assistant Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery

Dr. Schmidt’s research interests include ichthyoses and disorders of keratinization, melanocytic lesions in children, and use of systemic immune response modulators for skin diseases in the pediatric population. She is also interested in medical education. She has started a new pediatric dermatology clinic at the Mailman Center for
Child Development. She is currently involved in clinical research projects on pediatric plaque psoriasis and alopecia areata.

**Jennifer C. Tang, M.D.**

*Assistant Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery*

Dr. Tang’s research interests are mainly in skin cancer. She is interested in the appropriate staging and management of high risk squamous cell carcinomas. In addition, the use of hedgehog inhibitors for unresectable basal cell carcinomas. She also has a background in wound healing, participating in clinical trials and translational research for chronic non-healing wounds. Her clinical practice is focused on Mohs micrographic surgery and other dermatologic procedures.

**Marjana Tomic-Canic, Ph.D.**

*Professor, William H. Eaglstein M.D. Chair in Wound Healing, and Vice Chair of Research
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery
Director, Wound Healing and Regenerative Medicine Research Program
Molecular and Cellular Pharmacology Graduate Program
Human Genomics and Genetics Graduate Program*

Dr. Tomic-Canic is skin molecular and cell biologist by training whose research focuses on understanding mechanisms that control tissue repair process and its inhibition in human skin, utilizing primarily human model(s) and multiple pre-clinical models including porcine, diabetic and aging bleomycin mouse. During the past two decades she developed translational, multi-disciplinary collaborative program in wound healing that is focused on several areas: molecular and cellular mechanisms of wound healing and its inhibition (including epigenetic and genomic regulation); developing novel therapeutics and wound diagnostics; inflammation and infection in wound healing; aging; and multi-organ fibrosis. In the laboratory her NIH-funded work is fully integrated with stem cell biology, genomics, carcinogenesis, tissue engineering, and gene delivery.

**Antonella Tosti, M.D.**

*Fredric Brandt Endowed Professor
Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery*

Dr. Tosti is an internationally-recognized expert in hair and nail disorders and contact dermatitis as well as an invited lecturer at major international conferences, including the annual meetings of the European Academy of Dermatology and Venereology and the American Academy of Dermatology. She developed hair and scalp dermoscopy and trained hundreds of dermatologists around the world on diagnosis and
treatment of hair and nail disorders. She has authored more than 700 publications. She is the author/editor of 4 textbooks on hair disorders and 4 textbooks on nail disorders. She is an expert in patch testing for diagnosis of contact allergy. Dr Tosti is involved in clinical research and she is presently PI for studies on treatment of hair and nail disorders at UM. She is secretary/treasurer of the North American Hair Research Society and of the International Society of Trichoscopy. She organizes an annual meeting on hair and nail disorders in Capri, Italy, for 11 years.

**Gil Yosipovitch, M.D.**

*Professor*

*Director, Miami Itch Center*

*Dr. Phillip Frost Department of Dermatology and Cutaneous Surgery*

The primary goal of Dr Yosipovitch’s research is to investigate the neuroanatomy and neurophysiology of itch and developing antipruritic drugs that target the neural system. For the last 20 years he has been involved in itch research and promoting the topic, not just through clinical practice and research, but also through numerous efforts of organizing international meetings and educating other physicians, house staff and students and fellows about the topic. The field of itch research has been historically neglected, but recently has significantly expanded and has the potential to grow to a level parallel to pain research. Dr Yosipovitch initiated multiple studies on both the clinical and basic aspects of itch and its physiology, developed psychophysical methods of itch and scratch and assessing nerve fibers associated with itch in skin biopsies in humans and animal models. He has published more than 360 articles in books and peer-reviewed journals and has edited 3 books. He is the founder and past president of the International Forum for the Study of Itch. For the last 15 years he has studied brain imaging of itch and scratching, and assessing biomarkers involved in itch in health and disease as well as novel treatments as PI or Co-Investigator on University, foundations and NIH-funded grants.
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