

## **SUMMER 2021**





# *Path*FINDER

## *Path*FINDER

Welcome to the Summer 2021 edition of *Path*FINDER, our departmental newsletter. As the summer winds down, we are very fortunate to have had a healthy rainy monsoon season, very welcomed after years of severe drought. I am hoping everyone took time to enjoy the good weather and see our state looking green.

We are now in the fourth surge of COVID-19 as the highly transmissible Delta variant has very rapidly become the most prevalent variant in the United States and New Mexico. Some challenging months lie ahead as our healthcare facilities are already well over capacity. Our goal will be to continue to safely educate learners, work in groups, and take care of patients in this setting.

This is our transitions issue of *Path*FINDER and highlighted are all the comings and goings of our arriving and graduating residents, fellows, and BSGP graduate students – we had an impressive 7 PhD graduates this year! Congratulations to all graduates and best of luck in your future endeavors. And welcome to our four new faculty who are introduced in this issue.

We have two special features in this edition. Dr. Evelyn Lockhart is one of our Transfusion Medicine faculty whose career recently took a new direction in Medical Illustration/Communications. Dr. Lockhart took leave of her career at UNM in 2018 to pursue a master's degree in medical Illustration and communication. Fortunately for us, after completing her degree she returned to our department to continue both her clinical and illustrative work, with amazing applications to research, education, and clinical care. Starting with the cover art of our New Mexico state insect, the tarantula hawk wasp, you'll see stunning examples of her work.

Our second feature is of the UNM Human Tissue Repository-Tissue Analysis Shared Resource (HTR-TASR), jointly supported and funded by the Department Pathology and the UNM Comprehensive Cancer Center. Dr. Dennis McCance is the Scientific Director and tells of the ongoing tissue collection from UNMH surgeries which supports research projects throughout the Health Sciences Center. HTR-TASR has added the amazing HALO software purchased from Indica, a local company which adds image analysis and artificial intelligence to HTR-TASR's tissue analysis capabilities.



Thanks to all of you for everything you do for our department and mission and wishing you all continued health and safety as we move into this next phase of the pandemic.

Please follow us on Facebook, Instagram and Twitter.

NANCY JOSTE, MD Professor & Interim Chair of Pathology

## SUMMER 2021

1. WELCOME FROM NANCY JOS
3. FEATURE: EVELYN LOCKHAR
9. FELLOWSHIPS
19. RESIDENT GRADUATION, AV
23. FEATURE: HTR-TASR
25. ANNUAL GEORGE D. MONT
26. GRADUATE STUDENT AND P
29. FACULTY NEWS
31. MAKE A GIFT

Cover illustration: Tarantula Hawk Wasp, by Evelyn Lockhart, MD, MSCBMC. ©Copyright 2018 Evelyn Lockhart.

STE, MD

RT. MD. MSCBMC

WARDS. NEW RESIDENTS

OYA SCHOLARSHIP AWARD

POSTDOCTORAL FELLOW NEWS

## **FEATURE** FROM PLATELETS TO PIXELS MY MEDICAL ILLUSTRATION JOURNEY

BY EVELYN LOCKHART, MD, MSCBMC

In 2017, I came to a career-altering decision. After ten years of clinical practice as a transfusion medicine physician, I decided to pursue a graduate degree in medical illustration.

I know what you're thinking. "Why in the world would you do that?"

The short answer is that I had come to a realization: a large chunk of my work was spent creating visuals for medical communication. As an example, I was conducting a counseling session with an elderly Jehovah's Witness who was experiencing hemorrhage while being treated with warfarin. During our discussion, I sketched pictures of how clotting factors work, how they are typically replaced with transfusion, and how we could provide them with concentrates. With this newfound understanding, she agreed to receive the concentrates and asked to keep the drawings. "These helped me so much," she said. "I want to show these to others."

My novice illustration attempts extended far beyond patient counseling. I used illustration in resident teaching, PowerPoints for medical school, manuscripts, etc. I was using images to communicate on a daily basis, which made me realize that I was wholly untrained in how to do so effectively.

My investigation led me to discover the profession of "medical illustration." When hearing this term, most people think of Frank Netter's breathtaking anatomic illustrations. However, the profession encompasses much more than this. It shapes the understanding of medical science for patients, providers, and the general public. To recognize its reach, look no further than the image that defined 2020: the grey-and-red illustration of the SARS-CoV-2 virus, created by Alissa Eckert and Dan Higgins at the CDC. The aim of medical illustration (more aptly called "biomedical communication") is to convey biomedical concepts through visual media.

Our education has been shaped by medical illustrators.

There are <u>four accredited graduate programs in medical illustration</u> in North America, and I was astounded to see the scope of their programs. In addition to graphic design, they offered instruction on data visualization, interactive media (websites and apps), animation, and 3D modeling. I thought, "It would be so great to learn this, but there is no way I can. I'm too old and have no formal training." But despite my resistance, I could not shake the idea and kept returning to the program websites to review their students' work.

And thus began my journey.

I spent 2017 self-educating on art fundamentals. I created a portfolio, applied to the <u>University of Toronto Biomed-</u> <u>ical Communication program</u>, and was accepted. I finished my master's thesis in the summer of 2020 and returned to UNM shortly after. One of the most important things I learned was that medical illustration is a trainable skill, not a native talent. This was important for me to realize not just as a student, but also as an educator. With the support of the Department of Pathology, I was thrilled to offer the inaugural biomedical visualization resident rotation in July 2021. Dr. Mariah Hukins was the brave resident who agreed to co-create the rotation with me, rendering a medical illustration from conception to final piece.

It's been a wonderful ride and I look forward to exploring the intersection of pathology, education, and medical illustration here at UNM. If you would like to learn more about my work, feel free to visit <u>EvelynLockhart.com</u>.

### Human uterus and placenta

14 weeks gestational age



Above illustration: Human Uterus and Placenta, by Evelyn Lockhart, MD, MSCBMC. ©Copyright 2018 Evelyn Lockhart.

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## Mint

The menthol from mint activates TRPM8 channels in nerves responsible for sensing

> divalent ions to pass temperatures cooler than 22°C. Scientists have yet to determine the exact mechanism of how temperature opens TRP channels.

TRPM 8

Above illustration (pages 5/6): An Illusion of Fire and Ice, by Evelyn Lockhart, MD, MSCBMC. ©Copyright 2019 Evelyn Lockhart.

Right illustration: Knee: Sagittal cross-section illustration by by Evelyn Lockhart, MD, MSCBMC. ©Copyright 2019 Evelyn Lockhart.



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## Knee: Sagittal cross-section

 Rectus femoris
 Biceps femoris
 Semitendinosus
 Semimembranosus
 Femur
 Quadriceps tendon
 Popliteal vein Popliteal artery
Anterior cruciate ligament Posterior cruciate ligament
 Tibia
 Popliteus
 Flexor digitorum longus
Gastrocnemius, medial head
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 Gastrocnemius, medial head Soleus Gastrocnemius, lateral head Tibialis posterior
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Gastrocnemius, medial head Soleus Gastrocnemius, lateral head Tibialis posterior Flexor hallucis longus Fibularis brevis Fibularis longus
Gastrocnemius, medial head Soleus Gastrocnemius, lateral head Tibialis posterior Flexor hallucis longus Fibularis brevis Fibularis longus Extensor digitorum longus

## FELLOWSHIPS **POST-SOPHOMORE**

BY DANIEL BABU, MD



Michaela Granados

The UNM Department of Pathology recognizes Michaela Granados on her completion of the post-sophomore fellowship for 2020-2021. Michaela hails from New Mexico and received her undergraduate degrees in Biology & Chemistry at UNM, after which she spent a number of years honing her skills in clinical and basic research before she started medical school at UNM. When she applied to the PSF program, I was struck at not only her numerous accomplishments but the high praise from her mentors who noted her intellectual curiosity, maturity, work ethic, and independence. In particular, she was praised for being a "finisher," someone who can take a project to completion. Given this, it's no surprise that she has an impressive record of publications and completed research projects, including those in ovarian cancer and experimental therapeutics.

Once she was happily accepted into the PSF year, Michaela immersed herself into a variety of AP and CP rotations at UNM and Tricore, also accumulating scholastic achievements along the way. She co-authored a now-accepted CAP abstract with Dr. Agarwal on "Combined Neuroendocrine and Squamous Cell Carcinoma of the Sinonasal Tract: A Morphologic and Immunohistochemical Analysis," now in process of manuscript preparation. She is also working on a manuscript with Dr. Gullapalli and Eric Carbonneau at Tricore on a study comparing routine urinalysis instrumentations. As is often the case with PSFs, we forget that they are still medical students and not residents, and Michaela was no exception as she fully functioned as a member of our training program. She was an absolute joy to have, and it was a pleasure to watch her interests deepen in our specialty. In particular, Michaela expresses an initial interest in hematopathology!

As Michaela resumes clinical rotations soon, she will be working on a project with the NM Department of Health to map resources for opiate use disorders around the state. She hopes to continue her active involvement with CAP and our department and apply to pathology residency with the UNM School of Medicine class of 2023.

Congratulations to Michaela Granados on a very successful post-sophomore fellowship year!

## FELLOWSHIPS CYTOPATHOLOGY



Dr. Tafoya

The University of New Mexico Department of Pathology is pleased to recognize our graduating cytopathology fellow, Dr. Marissa Tafoya. A New Mexico native, Dr. Tafoya has been a part of the University of New Mexico family since 2007. She obtained her undergraduate degree from UNM in 2011 in psychology and biochemistry and her MD degree from UNM in 2016, the year she also joined the pathology department as an AP/CP resident. Dr. Tafoya was chief resident 2019-2020. During the course of her fellowship, Dr. Tafoya has honed her diagnostic skills and become outstanding at performing ultrasound-guided fine needle aspirations. Dr. Tafoya will be joining the faculty at the VA medical center here in Albuquerque, and we are happy she will be nearby. We would like to take this opportunity to thank Dr. Tafoya for her hard work and always positive outlook during this particularly challenging year.

### We would like to welcome our incoming fellow for 2021-2022:



Arwyn Cunningham, DO

Coming from Galveston, TX

#### BY NADJA FALK, MD, ASSISTANT PROFESSOR AND CYTOPATHOLOGY FELLOWSHIP DIRECTOR

Degree: DO from University of Pikeville - Kentucky College of Osteopathic Medicine AP/CP Residency: University of South Dakota Sanford School of Medicine

## FELLOWSHIPS HEMATOPATHOLOGY

BY DR. DANIEL BABU, ASSISTANT PROFESSOR, ASSOCIATE DIRECTOR, HEMATOPATHOLOGY FELLOWSHIP PROGRAM. ASSOCIATE PROGRAM DIRECTOR PATHOLOGY RESIDENCY PROGRAM

The UNM Hematopathology Fellowship program is proud to recognize our outstanding group of graduating fellows, who have been an integral part of the UNM and TriCore hematopathology services, balancing clinical service work with resident teaching and research. We wish them all the best in the next phase of their undoubtedly successful careers!



Favia Dubyk, MD, MS

Dr. Dubyk earned her MD from Case Western Reserve University. She completed AP/CP residency training at UNM and completed numerous quality improvement and research projects during her time here. Her work with Dr. Zhang in developing a diagnostic algorithm for anemia patients was selected for oral presentation at the 2020 International Society for Laboratory Hematology. Favia has a strong interest in improving patient understanding of pathology reports and recently discussed her experiences as a panelist at the Massachusetts Society of Pathologists Virtual Meeting. Over the past year, Favia has also been featured in the local news as well as the Wall Street Journal. She will be staying in Albuquerque where she has opened her own Pathology Education Clinic.

Dr. Dubyk



#### Audra Kerwin. MD

Dr. Kerwin earned her MD from UNM and, fortunately for us, stayed at UNM for her AP/CP training where she was named Resident of the Year in 2020. She has pursued numerous interests as a trainee including projects in artificial intelligence, also publishing a report of a case of Ph-like B-ALL with Drs. Toth and Chabot-Richards in CAP Today. Audra has a particular interest in pediatric hematopathology and will pursuing additional training at Nationwide Children's Hospital in Columbus, OH for a clinical pediatric pathology fellowship.

Dr. Kerwin



#### Rebecca L. Kunak, DO

Dr. Kunak earned her DO from Edward Via College of Osteopathic Medicine. After initially pursuing a general surgery residency, Dr. Kunak entered AP/CP residency at Medical College of Georgia (Augusta, GA) where she also served as chief resident. She was highly productive as the junior member of the CAP Hematology and Clinical Microscopy Committee, making significant contributions to their educational programs. Following fellowship, Rebecca will be entering practice at Michigan Pathology Specialists (Grand Rapids, MI) at Spectrum Health.



Olumide Odeyemi, MD, MA Dr. Odeyemi earned his MD with honors from Ross University School of Medicine, after which he entered residency at University of Colorado, Anschutz Medical Campus (Aurora, CO). After AP/CP training, Olu joined UNM for hematopathology fellowship training. His interests include lymphomas, digital pathology, and immunohistochemistry. His scholastic work has included multiple abstracts/poster presentations, including at the CAP, and a recently published case report and review article on extranodal sinonasal lymphomas. His next stop will be Stanford University where he will pursue surgical pathology fellowship training.

Dr. Odeyemi

#### We would like to welcome our new fellows for 2021-2022:



Jake Emanuel, MD

Degree: MD from Case Western Reserve University School of Medicine AP/CP Residency: MD from Medical University of South Carolina Coming from Charleston, SC

Dr. Emanuel



Stephanie Holdener, MD

AP/CP Residency: Baylor College of Medicine Cytopathology Fellowship: MD Anderson Cancer Center Coming from Houston, TX



Elise Venable, MBBS Degree: MBBS from University of Queensland

AP/CP Residency: Mayo Clinic Coming from Rochester, MN

Dr Venable



Dr Zaien

#### Feras Zaiem, MD

Degree: MD from University of Damascus School of Medicine AP/CP Residency: Wayne State University/Detroit Medical Center Coming from Detroit, MI

Dr Kunak

Degree: MD from University of South Florida Morsani College of Medicine

## FELLOWSHIPS FORENSIC PATHOLOGY

BY DR. LAUREN DECKER, ASSISTANT PROFESSOR, DIRECTOR, FORENSIC PATHOLOGY FELLOWSHIP PROGRAM

As my first year as the program director of the University of New Mexico Forensic Pathology Fellowship, I could not have chosen a better group of fellows. It is my honor to recognize these four amazing doctors graduating this year. Drs. Boecking, Helmrich, Sundell, and Yell have been invaluable to our office this year, both exceeding the regular demands of our rigorous fellowship by providing autopsy services to the state of New Mexico, and also helping our office navigate the all of uncertainty that came with the pandemic. We are very grateful to have had these doctors alongside us this year.



#### Carolin Boecking, MD

Dr. Carolin Boecking received her medical degree from Albert-Ludwigs University is Freiburg, Germany after which she spent several years as a postgraduate researcher and scholar at the University of California in San Francisco. She completed an anatomic and clinical pathology residency at UCSF prior to her forensic pathology fellowship with us. Dr. Boecking was always a bright spot in our office, somehow managing to maintain a sunny disposition while in training, with a toddler at home, during a pandemic. Her commitment to her casework and her education was refreshing and conversations with her always ended in a "thank you." Our office will greatly miss her as she transitions to a pediatric pathology fellowship in Seattle next year.

Dr. Boecking



Emily Helmrich, DO

Dr. Emily Helmrich received her medical degree from Philadelphia College of Osteopathic Medicine and her Master of Medical Science from University of South Florida. Although she is from Florida, New Mexico has once again worked its magic. Dr. Helmrich came to New Mexico for anatomic and clinical pathology residency, stayed for her forensic pathology fellowship, and is staying here, at the Office of the Medical Investigator, as faculty next year. During her fellowship, Dr. Helmrich completed several projects and published a paper on PMCT use in COVID-19 related fatalities. We are extremely excited and downright lucky to have such a smart, hardworking, and eager personality joining us next year.

Dr. Helmrich



#### Zoey Sundell, MD

Dr. Zoey Sundell received her medical degree from the Uniformed Services University of Health Sciences. She then completed a transitional intern year and an anatomic and clinical pathology residency at Madigan Army Medical Center. Being in the army, Dr. Sundell had to wait to complete her fellowship and during that time, worked as a general pathologist in multiple army community hospitals. The wait was worth it! Dr. Sundell has been a great addition to our office this year, providing a unique perspective and often taking some of the most difficult cases our office has seen. We will miss her greatly as she moves on to Dover taking a position at the Armed Forces Medical Examiner Office.



Dr. Yell

#### Paul Yell, MD

Dr. Paul Yell received his medical degree from UT Houston (McGovern) Medical School. He then completed an anatomic and clinical pathology residency at UT Southwestern, followed by a neuropathology fellowship. He has been the quiet and easy going fellow this year, completing his casework and helping with updating standard operating guidelines. He is often caught graciously teaching the residents and fellows neuropathology and has been actively involved in talks to high school students about the field of pathology, helping to recruit our future workforce! Dr. Yell will be sorely missed and we wish him luck as he starts his next phase as a medical examiner for the North Carolina Office of the Chief Medical Examiner.

### We would like to welcome our new forensic fellows for 2021-2022:



Daniel Gallego, MD

Degree: MD from Universidad del Valle, Cali, Colombia AP/CP Residency: University of Washington, Seattle, WA Coming to us from Seattle, Washington

Dr. Gallego



Michael Harrell, MD

Degree: MD from Case Western Reserve School of Medicine, Cleveland OH AP/CP Residency: The University of New Mexico School of Medicine Staying here in Albuquerque, NM

Dr. Harrell



Aidan Kerr, MD

Degree: MD from Temple University Lewis Katz School of Medicine, Philadelphia, Pennsylvania AP/CP Residency: Thomas Jefferson University Hospital Coming to us from Philadelphia, Pennsylvania

Dr. Kerr



Jolee Suddock, DO

Degree: DO from Oklahoma State University College of Osteopathic Medicine, Tulsa OK AP/CP Residency: The University of New Mexico School of Medicine Staying here in Albuquerque, NM

Dr. Suddock

## FELLOWSHIPS MOLECULAR GENETIC PATHOLOGY

BY DR. MOHAMMAD VASEF, PROFESSOR, PROGRAM DIRECTOR OF THE MOLECULAR GENETIC PATHOLOGY FELLOWSHIP

The University of New Mexico Molecular Genetic Pathology (MGP) Fellowship is delighted to recognize our current MGP fellows graduating June 30, 2021. Dr. Brittany Coffman and Dr. Adel Abdallah have been invaluable assets to our Department and TriCore Molecular Diagnostic Laboratory with ongoing clinical validation of new molecular tests in molecular hematopathology and pharmacogenomics.



#### Brittany Coffman, MD

Dr. Brittany Coffman received her medical degree from University of New Mexico Health Sciences Center (UNM HSC) and stayed at UNM HSC for her AP/CP residency. Brittany completed her Hematopathology Fellowship last year here at The University of New Mexico before her current MGP fellowship. Dr. Coffman has been very productive during her MGP fellowship training with outstanding performances in all areas of molecular pathology. Dr. Coffman actively participated and completed clinical validation of a molecular hematopathology assay that is now offered as a clinical test at TriCore. Dr. Coffman has served as an active member in several educational and evaluation committees at UNM and nationally including Education and Training Committee of Association for Molecular Pathology and

UNM department of pathology resident recruitment committee among others. We are honored to report that Dr. Coffman will be staying with us as Visiting Assistant Professor soon after completion of her fellowship.



#### Adel Abdallah, MD

Dr. Adel Abdallah received his MBBS degree from College of Medicine, University of Jordan. He completed his AP/CP pathology residency training in Department of Pathology at University of Tennessee Health Science Center in Memphis before he joined our Molecular Genetic Pathology (MGP) fellowship here at UNM. During his fellowship, Dr. Abdallah has become proficient in analysis of raw data and interpretation of molecular assays including next generation sequencing of solid tumors and hematopoietic neoplasms. In addition, Dr. Abdallah has also been actively involved in assay optimization of a pharmacogenomic test development in molecular diagnostic lab at TriCore. Dr. Abdallah is going to do a surgical pathology fellowship at MD Anderson Cancer Center, University of Texas after completion of his MGP fellowship.

new Molecular Genetic Pathology Fellows for 2021-2022:



#### Philip Barber, MBBS

Degree: MBBS from University of Queensland, Australia AP/CP Residency: Orlando Health, Orlando, FL Coming to us from a Hematopathology Fellowship at Washington University, St. Louis, MO

Dr. Barbei



Steven Burke Van Norman, MD Degree: MD from Duke University, School of Medicine AP/CP Residency: Michigan Medicine, University of Michigan

Dr. Van Norm

Dr. Abdallah

Dr Coffman



## We congratulate our graduating fellows and would like to welcome our

- Coming to us from a Hematopathology Fellowship at University of Michigan, Ann Arbor, MI

## FELLOWSHIPS SURGICAL PATHOLOGY

BY JOSHUA A. HANSON, MD, ASSOCIATE PROFESSOR



Dr. Nicka

positive attitude!

excel in this role.

#### **Catherine Nicka, MD**

The University of New Mexico Surgical Pathology Fellowship is delighted to recognize our fellow, Dr. Cait Nicka, graduating summer 2021. Dr. Nicka received her medical degree in 2015 at Pennsylvania State University College of Medicine. She completed her AP/CP residency at Dartmouth-Hitchcock Medical Center and then came to the Land of Enchantment for a Forensic Pathology Fellowship. Upon completion of her Surgical Pathology Fellowship, she will be one of the most well rounded fellows to graduate from our programs!

Dr. Nicka has been an exemplary surgical pathology fellow at UNM. She is the exact type of pathologist we should all want reading our biopsies. She has a good diagnostic eye, possesses excellent clinical knowledge, and, most importantly, pays great attention to detail. Dr. Nicka would find cells in her biopsies I'm sure I would have overlooked and I guarantee she will ALWAYS find a few rare H. pylori bugs trying to escape detection. We will all miss her exceptional work ethic and

## Dr. Nicka will be transitioning to a general surgical pathology practice with autopsy responsibilities. I know she will

On behalf of the UNM AP faculty, I thank Dr. Nicka for her sterling work this year and I wish her the best in her future endeavors.

We would also like to welcome our incoming Surgical Pathology Fellow for 2021-2022:



#### Nathan Ryan, MD

Degree: MD from Saint George's University, Grenada AP/CP Residency: Augusta University Medical Center Coming from Charleston, South Carolina

Dr. Ryan

## FELLOWSHIPS TRANSFUSION MEDICINE

BY KENDALL CROOKSTON, MD, PHD, PROFESSOR EMERITUS

## We would like to welcome our new Transfusion Medicine Fellow for 2021-2022:



Dennis Sosnovske, MD

Degree: MD from Oregon Health & Science University, School of Medicine AP/CP Residency: The University of New Mexico, Department of Pathology Staying here in Albuquerque, NM

## OUR NEW RESIDENTS

PLEASE JOIN US IN WELCOMING OUR NEW INCOMING PGY1 RESIDENTS!



#### Alisha Berry, MD

Yonatan Carl, MD

Megan Gage, DO

Dr. Berry joined us from Oregon Health Sciences University in Portland, OR, where they attended medical school and completed a surgical internship year. During medical school they completed a Master of Clinical Research degree through OHSU's Human Investigations Program. Alisha has had a longstanding interest in forensic pathology, solidifying their interest with a rotation at the Oregon State Medical Examiner. Alisha also has a highly impressive record of leadership in many social and humanitarian causes as well and led efforts to enhance their med school LGBTQ Health curriculum.

Dr. Carl moved from Puerto Rico where he attended the San Juan Bautista School of

Medicine. He earned his undergraduate degree from Tulane University and spent several

productive years in molecular-based research, also accumulating impressive volunteer

and teaching experiences abroad. Notably, during medical school, Yonatan took a one-

vear research leave to study the effects of prolonged stress on Puerto Rican populations

in the aftermath of Hurricane Maria, even serving as Principal Investigator on this study which he published. He was awarded a competitive fellowship to spend a summer at the

Dr. Gage is originally from Oklahoma and is attending medical school at Kansas City

University of Medicine and Biosciences College of Osteopathic Medicine. She became

interested in pathology in part as a result of her undergraduate studies in Sociology-

Criminology at the University of Oklahoma. Before medical school, she worked at a

plasma donation center where she performed phlebotomy and managed plasmapheresis procedures and adverse reactions. Megan also explored an interest in forensic pathology

University of Pittsburgh where he solidified his clinical and research interests.

Dr. Berry



Dr. Carl



Dr. Gage



#### Martika Percy, MD

at the Greene County Medical Examiner in Missouri.

Dr. Percy is originally from Trinidad and Tobago and attended medical school at St. George's University School of Medicine, graduating in 2015. During medical school she completed a forensic science elective which led her to pursue additional pathology clerkships. In the years following med school she fulfilled work requirements as a junior physician on various ward services and conducted research on suicide rates at the Trinidad and Tobago Forensic Sciences Center. She enters residency at UNM with a potential interest in cytopathology (although she keeps an open mind!).

RESIDENT GRADUATION JOLEE SUDDOCK, DO

BY EVELYN LOCKHART, MD, MSCBMC

Imagine if you will: a woman bedazzled with sequins and a cowboy hat, astride a horse named Xander awaiting her rodeo performance, whiling away the time reading a Harry Potter novel.\* Now 5972 imagine this same woman as a poster model highlighting her trailblazing successes in the University of Central Oklahoma (UCO) forensic science undergraduate program. Lastly, imagine this same blindingly positive woman in her AP/ CP residency program at UNM, serving as Chief Resident and winning the Resident of the Year Award in 2020. If you are wondering, "who could possibly be a rodeo performer, a Buffy fan, a Dr. Michael Harrell, left, and Dr. Jolee Suddock Gryffindor, a doctor, and award-winning pathology resident with a mind-blowing career focus?", look no further than our very own Dr. Jolee Suddock.

Before joining the UNM Pathology department, Dr. Suddock showed her early predilection for forensics as one of the first students to complete the dual degree program in Forensic Science and Biology. She attained her doctorate in Osteopathic Medicine from the Oklahoma State University College of Osteopathic Medicine. While at OSU COM, she earned a coveted underrepresented minority scholarship from Johns Hopkins, spending a month entranced by complex neuropathology. Impressively, she was a gold recipient of the ASCP Academic Excellence and Achievement in Pathology Award. She started the Pathology and Lab Medicine Club at OSU COM and, not surprisingly, galvanized her classmates into running blood drives. Her stellar work was recognized by membership in the Sigma Sigma Phi Osteopathic Honor Society, for which she also served as their Vice President.

Dr. Suddock immersed herself in pathology residency at UNM, actively engaged in education, research, and clinical work. She served on the Cardiovascular and Pulmonary Medical School Block committee, the Resident Recruitment committee, and actively developed her educational acumen through attending the Residents as Educators Conference, Somehow between all her other numerous responsibilities, she found time to present five posters at local and national meetings as well as author two StatPearls. Working with Drs. Heather Jarrell and Karen SantaCruz, she became smitten with forensic neuropathology, setting her sights on the University of Southern California neuropathology fellowship to follow her forensic fellowship here at UNM.

Dr. Suddock, it has been a joy and a privilege working with you and I cannot wait to see the next chapters in your incredible journey! Thank you for your many contributions to our department.

\*Per Dr. Suddock. True facts, folks.

Dr. Percy



## RESIDENT GRADUATION MICHAEL HARRELL. MD

BY JULIE HARRINGTON, MD



Dr. Michael Harrell's appreciation for pathology was apparent when I met him on the first day of his VA rotation. He was brighteyed, enthusiastic, and eager to learn. He told me that prior to joining our program he had completed a transitional year in internal medicine at the University of Pittsburg, followed by a year of radiology residency at Loma Linda University. I'll never forget his emphatic confession that radiology was not a good fit: "I am SO glad I chose pathology!" Well, we are glad you did too! Mike has been such an uplifting and inspiring presence in our department, and it is with bittersweet acceptance that he is leaving us for a bright career in forensic pathology.

I think it is safe to say that Mike is probably the happiest person I've ever met. I can't ever remember seeing him without a smile on his face. No matter what service he was on we could always rely on Mike to dive right in, take initiative on tasks, work incredibly hard, and give 100% to support his team. I was always impressed by his intelligence, his passion for learning, and his natural ability

Dr Michael Harrell, left, and Dr. Jolee Suddock

to teach. His peers describe him as a "walking board question", as he is always quizzing his fellow residents in preparation for boards. I have never seen a resident that would review surgical pathology cases with such excitement and enthusiasm. He is always just SO HAPPY.

His time with our department is distinguished by a plethora of academic and research endeavors. He worked in collaboration with co-resident Dr. Jordan Redemann and numerous faculty members in publishing their findings on deep learning convolutional neural networks and how they can be used to identify site of origin in welldifferentiated neuroendocrine tumors. He has given numerous poster and oral presentations that include autopsy findings in congenital neurosyphilis, purging-induced electrolyte abnormalities with prolongation of QT-interval, and the use of spermatozoa cytology screening in post-mortem sexual assault cases, just to name a few!

When Mike finished his cytopathology rotation before coming back to the VA for his last rotation as a senior resident, cytopathology fellow Dr. Marissa Tafoya lamented that she wished their service "could have Mike back". We feel your pain, Marissa. We will miss having him as a resident, but we are excited about his future as a forensic pathologist. Good luck during your fellowship at the OMI, Mike. They are lucky to have you.

## RESIDENT GRADUATION DENNIS SOSNOVSKE, MD

BY JOSEPH GRIGGS, DO



Years ago, before Dennis Sosnovske became Dr. Sosnovske, he was

at a crossroads in life, deciding between a career in medicine or the path of education when life happened. He got married, and children soon followed. Given the needs of his family and differing time commitments between careers, Dennis pursued the path of education. However, as his children became adults, Dennis reflected on his life goals and the paths he had and had not taken. Ultimately, resulting in him committing himself to a major life change by going to medical school after a full career in secondary education (19 years!). Though Dennis may have "left" education, his passion for education had not left him. As a non-traditional medical student with a background in education, he found himself drawn into conversations with some of his best teachers, which happened to be the Pathologists. Through these interactions, his interest in Pathology was kindled. After graduating from Oregon Health & Sciences University medical school, Dr. Sosnovske departed from the Pacific Northwest to join us here at UNM in 2017.

However, even before Dennis first arrived for residency in 2017, he was impressed during his residency interview at the number of fellowships that UNM offered in Pathology, the friendliness of the staff, its current residents, and the beauty and culture of New Mexico. He knew during the interview that this was where he wanted to match. After arriving, it wasn't long before he got involved with UNM's Resident Council, serving on several hospital task forces such as Duty Hour, Curriculum, and Right Size Task Forces. Dennis was also able to put some of his prior teaching experience to work for UNM's School of Medicine, participating and helping to teach medical students during their Hematology block in addition to the peer to peer teaching he provided throughout his residency. Dennis had abstracts and presented posters at ISLH, AACC, and ASFA, was involved with multiple Quality improvement projects, and ended up giving an oral presentation at the local Quality Improvement Patient Safety (QIPS) seminar. His area of research includes apheresis, coagulation, and clinical chemistry. Dennis also found time to give back to the community during his residency and is a member of Uptown Civilians International. This organization serves the community, focusing on the needs of local women and children temporarily living in the local homeless shelters.

When he is not at work or volunteering, Dennis enjoys spending his free time with his wife and grown children. On the weekends, he will sometimes get up before dawn to work as a member of a local balloon crew, enjoying all aspects of being on the crew, from setup to riding, and even chasing it to wherever it ends up landing. For those of you who know Dennis, he has many hobbies that allow him to express his artistic side. He enjoys making caramel; bringing it to work when he can. He has recently started carving miniature figures out of wood and has become quite the avid woodturner. More often than not, one can find him out in the garage creating unique art pieces. As he often tells his wife, "There is always time to go make a little sawdust!".

I speak for all of the Transfusion medicine attendings. We are looking forward to working with Dr. Dennis Sosnovske during his upcoming fellowship year and seeing where his skills and passion for education take him as he advances in his second career!

## FEATURE HUMAN TISSUE REPOSITORY AND TISSUE ANALYSIS SHARED RESOURCE

BY DENNIS MCCANCE, PHD

The University of New Mexico Human Tissue Repository-Tissue Analysis Shared Resource (HTR-TASR), established in 2003, is jointly funded and managed by the UNM Department of Pathology and the UNM Comprehensive Cancer Center. Although based in the Department of Pathology, the services are open to all faculty in the Health Sciences Center, UNM in general and outside organizations. The HTR-TASR primarily collects excess tissues from consented UNM Health Sciences Center patients who have surgeries performed at our hospitals. Subsequently, their tissue samples are processed, stored, annotated and made available to UNM researchers with IRB approved protocols.



Bottom row, from left: Karen Capobianco, Hayley Hunt, Edgar Fischer, Fred Schultz Top row, from left: Daniel Sanchez, Sadie La Bauve, Cathy Martinez, Dennis McCance

The HTR-TASR stores both frozen and Formalin Fixed Paraffin Embedded (FFPE) tissues for researchers and the ischemic time, percentage of disease, necrosis and stroma are documented for each specimen. Fees for specimens

and services help alleviate the costs incurred in banking and maintaining the specimens.

The HTR-TASR has eight staff, an operations manager (Elisa (Sadie) La Bauve, PhD), a senior technical manager (Cathy Martinez, PA), two research technicians (Daniel Sanchez, BS and Hayley Hunt, BS), an administrative assistant (Karen Capobianco BA), and a systems manager (Fred Schultz, MA). Two co-directors, one scientific (Dennis McCance, PhD) and the other medical (Edgar Fischer, MD), round out the group. Please refer to the <u>HTR-TASR website</u> for contact information.

Although a modest operation in terms of staff size, the HTR-TASR provides a wealth of services to UNM researchers. In fact, 101 investigators used the services of the HTR in the last five years. Examples of services the HTR-TASR provides include basic histology services such as cutting tissue sections for staining and nucleic acid sequencing, custom tissue microarrays (TMAs), and optimizing and performing immunohistochemistry using the Ventana Discovery platform. Increasingly, the HTR-TASR is being asked to collect specific tissue types for investigators, de-identify them and then supply fresh tissue for cell isolations or for producing patient derived xenographs (pdxs). While solid tumors make up the majority of our collection, we also have cryopreserved cells of bone marrow and blood specimens from various hematological malignancies.

A recent addition to the HTR-TASR services includes quantitative image analysis using state of the art software, HALO, created by a local Corrales company, Indica Labs. This software allows for the rapid automated quantitation of immunochemical (Fig. 1) or immunofluorescent (Fig. 2) staining in a very short time (seconds to minutes) compared to the laborious manual counting which previously fell to the unsuspecting graduate student or resident. Digital imaging and HALO software also allows multiplex staining and analysis. It also capable of deep learning (sometimes referred to as Artificial Intelligence) methodologies to recognize common patterns of injury in tissues that may not be observed by the eye. This part of our imaging package is being increasing used experimentally by pathology faculty (Drs. Martin and Hanson) to determine patterns of pathology in tissues that are not easily recognized with the future goal of perhaps using this technology to aid in difficult diagnoses.



FIG. 1: Triple immunohistochemical staining by antibodies to CD8 (brown), CD31 (cyan) and D2-40 (purple).

In pursuit of greater excellence, we have submitted an application to the College of American Pathologists (CAP)



FIG. 2: Staining of LAMP2 (green) and ADRP (red).

to be CAP certified as a biorepository. Our inspection date in May 2020 had to be delayed due to COVID-19 but we are hopeful that a date will soon be set. In addition to having an official certification of excellence, obtaining CAP accreditation will expand the range of our services. For instance, CAP certification will allow tissues that we collect and store to be used in clinical testing, whereas before the tissues could only be used for research purposes. This will be attractive to many of our clinical faculty who are involved in clinical trials.

In summary, we hope the founders of the HTR-TASR will look at what has been achieved and feel their work was rewarded with a first-rate facility that supports the tissue-based research needs of the faculty at UNM.

## THE ANNUAL GEORGE D. MONTOYA SCHOLARSHIP AWARD

Congratulations to the recipients **Rosstin Ahmadian** and **Will Kanagy** for being awarded the Department of Pathology 2021 George D. Montoya Scholarship! Rosstin performed the research for his presentation, "Reactive Oxygen Species Mediate Decreased Pulmonary Arterial Smoother Muscle Cell Membrane Cholesterol Following Chronic Hypoxia," under mentorship of **Dr. Tom Resta**. Will's talk, titled "Mast Cell Receptor Signaling: Determining How Early Initiating Cellular Events Dictate the Allergic Response," was founded on research performed under mentorship of **Dr. Diane Lidke**.

In his 31-year career as a science manager at UNM, Montoya assisted medical students, technologists, graduate students, post-docs, and residents. The research scholarship fund established in his name commemorates Montoya's kindness and the impact he had on those around him.





Rosstin Ahmadian

Will Kanagy

## GRADUATE STUDENT AND POSTDOCTORAL FELLOW NEWS

NEWS ABOUT CURRENT AND FORMER STUDENTS FROM OUR FACULTY LABS

#### GILLETTE LAB

#### Muskan Floren, BSGP

PhD Defense: September 2020 Title: Impact of CD82 Expression on Acute Myeloid Leukemia Chemosensitivty and Quiescence Current Position: Senior Scientist, Hematology Division, AstraZeneca

**Christian "Levi" Doyle**, Maximizing Access to Research Careers (MARC) Undergraduate Student BS Senior Thesis: May 2021

Title: Tetraspanin CD82 modulation of Quiescence in Acute Myeloid Leukemia Current Position: MD/PhD Student, University of Iowa Medical Scientist Training Program

#### LIDKE LAB

#### Will Kanagy, BSGP

PhD Defense: June 2021

Title: A Tale of ITAM Tails: New Insights Into the Molecular Mechanisms that Tune FcɛRI Signaling Next Step Plans: Dr. Kanagy will continue as a post-doctoral fellow in the Lidke lab through December 2021 to complete his publications. After this, he plans to move to a postdoc position that combines immunology research and education.

#### Irais Ortiz Caraveo, BME

MS Defense: June 2021

Title: Correlating Diffusional Dynamics and Receptor Tyrosine Kinase Function Using Single Quantum Dot Tracking Next Step Plans: Irais will continue as a technician in the Lidke lab as she wraps up her manuscript and actively applies for industry positions.

#### NEUMANN LAB

#### Eddy Anaya, BSGP

PhD Defense: July 2020 Title: Role of ß-glucan Structure in Dectin-1 Homo- and Hetero-oligomerization in Innate Anti-fungal Immunity Current Position: Postdoctoral researcher, Pekosz Lab, Johns Hopkins Bloomberg School of Public Health

#### Rohan Choraghe, Biomedical Engineering

PhD Defense: July 2020

Title: Dectin-1 mediated mechanical force generation in Candida albicans fungal pathogen recognition Current Position: Postdoctoral researcher, Nauen Lab, Johns Hopkins School of Medicine

### NEUMANN LAB (continued)

#### Carmen Martinez Villalobos, BME

PhD Defense: August 2020 Title: The Investigation of Surface Structures on Various Pathogens and Their Interactions with the Human Immune System Current Position: Biological Scientist, Defense Threat Reduction Agency

#### Akram Etemadi Amin, Physics

PhD Defense: May 2021 Title: Nanoscale Assembly of Dectin-1 and its Glucan Ligand in Immunocyte Membranes and Pathogen Cell Walls Current Position: Process Engineer, Intel Corporation

#### WANDINGER-NESS LAB

#### Melanie Rivera, BSGP

PhD Defense: June 2021

Title: Rac1 in ovarian cancer metastasis and tumor microenvironment remodeling: An experimental and computational analysis

Next Step Plans: Dr. Rivera will continue as a post-doctoral fellow in the Wandinger-Ness lab to finish her publications through November 2021. Thereafter, she plans to move to a new appointment in Louisiana.

#### PRESENTATION AWARDS

Amir Nafchi, graduate student (Bearer Lab), received 3rd place award for his poster at the BBHI Research Day. "Interactions Between Autophagy, Herpesvirus and Neurodegeneration in Alzheimer's Disease," A. Nafchi, M. Anani, T. Oprea, B. Readhead, E. L. Bearer.

Graduate students **Will Kanagy** (Lidke Lab) and **Erica Pascetti** (Gillette Lab) received awards for their outstanding performances at the UNMHSC Biomedical Sciences Graduate Program Student Research Day. Will received the 2nd place prize for his oral presentation entitled "The Tale of ITAM Tails: How ITAM Phosphorylation and Spacing Tune Mast Cell Signaling." Erica received the 1st place prize for her poster presentation entitled "Tetraspanin CD82 Regulates Hematopoietic Stem and Progenitor Cell Quiescence & Regeneration."

**Christian "Levi" Doyle**, a senior undergraduate MARC student (Gillette Lab) received a Student Presentation award at the 2020 Society for Advancement of Chicanos/Hispanics and Native Americans in Science: The National Diversity in STEM Virtual Conference. Levi was acknowledged for his "superb research presentation" by the mentor judges. Additionally, Levi received the 2021 Dr. Robert Loftfield Undergraduate Biochemistry and Molecular Biology Student Research Award for his Senior Thesis entitled " Tetraspanin CD82 modulation of Quiescence in Acute Myeloid Leukemia".

**Melanie Rivera** was selected to attend and presented a poster at the 2021 virtual AACR meeting entitled: "Rac1 as a driver and therapeutic target in ovarian cancer".

#### TRAVEL AWARDS

**Dr. Victoria Balise**, (Post-Doctoral Fellow (Gillette Lab), received a registration/travel award from the American Society for Cell Biology Minority Affairs Committee to attend the Cell Biology virtual 2020 online ASCB/EMBO meeting. Dr. Balise also received a registration/travel award from the Hematopoiesis Keystone eSymposia for attendance at the 2021 Hematopoiesis meeting.

**Erica Pascetti**, BSGP graduate student (Gillette Lab), received a registration/travel award from the Hematopoiesis Keystone eSymposia for attendance at the 2021 Hematopoiesis meeting.

**Sebastian Restrepo Cruz**, graduate student (Gillette Lab), received a registration/travel award to present his work at the 2021 International Conference on Engineering Synthetic Cells and Organelles.

**Taylor Uselman**, BSGP graduate student (Bearer lab), received a Trainee Profession Development Award from the Society for Neuroscience in January 2021. His team received Best Use of Funds for Firm Scaling Award and the Overall Grand Prize from UNM Anderson School of Management's Global Scaling Challenge in April 2021, where teams from around the world competed in developing strategies to scale 3 New Mexican biotech firms.

**Paige Lynch**, Anthropology graduate student (Edgar lab), received a GPSA New Mexico research grant to support her research at the Gać Field School in Poland for 10 weeks in the summer of 2021. The Gać Excavation is one of the three active excavations being conducted by the Slavia Summer Field School in Archaeology Project (Slavia Project). Her research goal is to better understand who had access to resources (e.g., food sources) and how that affected their biology, specifically the relationship between their diets and skeletal pathological conditions (related to nutritional deficiencies).



## FACULTY NEWS

#### NEW FACULTY

Tara Ooms-Konecny, DVM, Assistant Professor Clinician Educator, HSC Animal Resource Facility, July 1, 2021
Marissa Tafoya, MD, Clinical Assistant Professor, VAMC, July 19, 2021
Anthony Cretara, MD, Assistant Professor Clinician Educator, Anatomic Pathology, August 1, 2021
Emily Helmrich, DO, Assistant Professor Clinician Educator, OMI, August 1, 2021
Sofia Rodriguez, MD, Visiting Assistant Professor Clinician Educator, OMI, August 23, 2021

### FACULTY PROMOTIONS

Margaret Alba, DOM, from Senior Lecturer II to Principal Lecturer II Nadja Falk, MD, from Assistant Professor to Associate Professor Clinician Educator Elizabeth Johnson, MS, from Lecturer II to Senior Lecturer II Amer Mahmoud, MD, from Clinical Assistant Professor to Clinical Associate Professor

#### FACULTY RETIREMENTS

Kevin O'Hair, DVM, Professor, July 1, 2021Ross Zumwalt, MD, Professor Emeritus, July 1, 2021Cheryl Willman, MD, Distinguished Professor, August 1, 2021

#### FACULTY AWARDS

Congratulations to **Dr. Angela Wandinger-Ness**, Professor of Pathology, and **Dr. Martha Grimes**, Research Assistant Professor, College of Pharmacy! Their competitive proposal has been awarded this year's pilot funding from the Department of Pathology. The project title is "Elevated Rac1 promotes tumor angiogenesis in ovarian cancer cells."

### UPCOMING FACULTY TALKS

#### Elaine L. Bearer, MD, PhD

Stromstadt Akademy Annual Meeting and Awards Ceremony in Stromstadt, Sweden Recipient of Honorary Professorship Award "Neuroscience of Emotion." August 31, 2021. http://stromstadakademi.se/Hedersprof/BearerElaine.pdf

#### Rama Gullapalli, MD, BS, PhD

Digital Pathology Association Virtual Symposium: Empowering Your Education with DP & AI "The Cutting Edge in Digital Pathology and Artificial Intelligence: The Future of Pathology Learning." September 1, 2021. <u>https://digitalpathologyassociation.org/calendar-of-events</u>

#### Kathryn Foucar, MD

2022 Tutorial on Neoplastic Hematopathology / Center for Continuing Medical Education in San Diego, CA; hosted by the University of Chicago Pritzker School of Medicine. "B,T Chronic Lymphoproliferative Neoplasms." January 20, 2022, 8:00 AM (PST) "Acute Myeloid Leukemia." January 20, 2022, 1:15 PM (PST) <u>https://cme.uchicago.edu/TNH2022</u>

## MAKE A GIFT

Your gift today impacts healthcare and research for tomorrow. Please consider making a recurring, one time, or legacy donation to one of the following funds:

### THE FOUCAR ENDOWMENT

Invest in future Pathologists. Recruiting and training highly proficient Pathology residents and fellows is a top priority.

VISIT: The Foucar Endowment

### THE GEORGE D. MONTOYA RESEARCH SCHOLARSHIP FUND

Encourage UNM students to pursue a career in biomedical research.

VISIT: The George D. Montoya Research Scholarship Fund

## THE THOMAS M. WILLIAMS & MARGARET G. WILLIAMS ENDOWMENT FOR EDUCATION AND TRAINING

Support the greatest educational and training needs within the Department of Pathology. VISIT: The Dr. Thomas M. Williams & Margaret G. Williams Endowment for Education and Training

### DONATE

Donate by credit card through the UNM Foundation website. Specific links to each Pathology fund are listed at <a href="mailto:pathology.unm.edu/make-a-gift">pathology.unm.edu/make-a-gift</a>

Donate by check, estate planning, bequest, charitable annuity, insurance gift, charitable trust and more.

Thank you for thinking of The University of New Mexico Department of Pathology funds as you generously give!

## ACKNOWLEDGEMENTS

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Please share your news with: William F. Collins: wfcollins@salud.unm.edu

For more information on our department, please visit our website: https://hsc.unm.edu/medicine/departments/pathology/