



The **Pathology** Report

2021-2022 Duke Pathology Annual Magazine





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Duke Pathology

Duke University School of Medicine

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LETTER FROM OUR CHAIRMAN

Dear Friends:

I'm pleased to share our 2021-2022 edition of our Annual Report, a beautiful production by Ms. Jamie Botta, our highly talented and hard-working Communications Strategist, who joined our department recently.

We continue to build an amazing team of faculty and staff who are not only bright and accomplished, but also collaborative and wonderful to work with as colleagues. We have persevered together through the pandemic, with clinical faculty supporting each other during the most difficult time ever experienced. I'm honored to lead such a wonderful team of professionals who provide patient care of the highest quality as well as doing research and educating our next generation of physicians.

I'm delighted that we met together in person this fall for our annual scientific retreat for the first time since the pandemic started. This all-day event brought faculty and trainees from both research and clinical divisions together. Collaborations and scientific breakthroughs often result from casual conversations in an informal setting like this.

Additionally, we are moving to becoming "One Duke," with the integration of Duke University Health System and Private Diagnostic Clinic (Duke's physician organization) into one organization known as Duke Health Integrated Practice (DHIP). This will enable us to serve our patients with better coordination and increased efficiency.

Our alumni have been such an important part in shaping the current state and the future of our department. Your generous support has given us the important resources to pursue our goals in education and research. I look forward to your continued participation to make Duke Pathology an even better department that you can take great pride in.

Warm regards,

Jiaoti Huang, MD, PhD

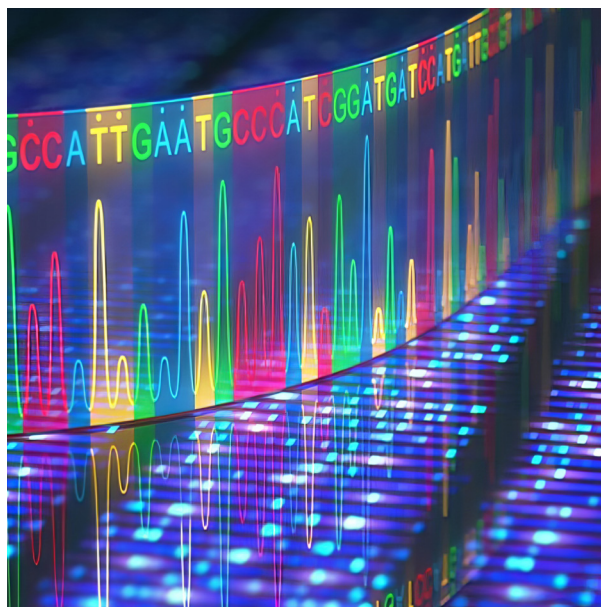
Chairman, Department of Pathology
Duke University School of Medicine



DATA AT THEIR DIGITAL FINGERTIPS

Tissue-based Research and Precision Cancer Medicine Comes of Age

by JAMIE BOTTA and JULIE POUCHER HARBIN



TEN YEARS AGO, VISIONARIES IN THE DEPARTMENT OF PATHOLOGY AND DUKE CANCER INSTITUTE (DCI) SAW AN OPPORTUNITY TO ADVANCE HUMAN TISSUE-BASED RESEARCH AND PRECISION CANCER MEDICINE AT DUKE AND GRABBED IT.

A working group led by Pathology faculty **Rajesh Dash, MD** (then co-leader with **Alan Proia, MD, PhD**, of the Duke Comprehensive Cancer Center Biorepository), **Michael Datto, MD, PhD** (then-leader of the Genome Trials Support Facility), and **Shannon McCall, MD**, together with other leaders in the Duke School of Medicine (SOM) began to discuss merging into one entity the Duke Comprehensive Cancer Center Biorepository, which had started to languish from under-funding, and the nascent Genome Trials Support Facility.

They had the ear of **Michael Kastan, MD, PhD**, the William and Jane Shingleton Distinguished Professor of Pharmacology and Cancer Biology and executive director of Duke Cancer Institute (DCI). Kastan, who had joined Duke in 2011, believed that DCI, the successor entity to the National Cancer Institute-

designated Duke Comprehensive Cancer Center, could serve as a national model for structuring cancer programs—bringing together research, patient care, and education under one umbrella.

In 2012, DCI and the Duke University School of Medicine committed to a five-year, \$3 million investment in a new Duke BioRepository & Precision Pathology Center (BRPC)—a clinical research and discovery resource with its administrative home in the Department of Pathology. Spurred by key investments in technology, services, and personnel, the BRPC grew, thrived, and progressively built a national reputation.

Datto, the inaugural director of the BRPC, was instrumental in designing its Institutional Review Board protocol. He modeled the BRPC after other Duke University Health System Clinical Laboratories and prepped the BRPC for accreditation by the College of American Pathologists (CAP).

In 2013, McCall was named director and the BRPC received CAP

accreditation as a tissue, blood, and fluid biorepository, tissue procurement service, and research support core laboratory.

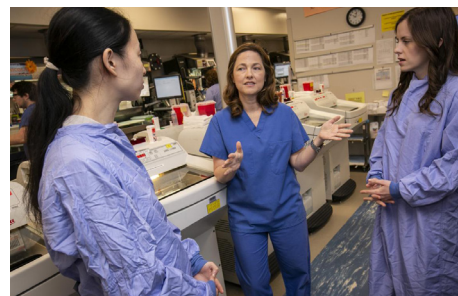
In 2014, the BRPC became an approved **Duke University School of Medicine**

Service Center (also known as a Core Research Facility) and Duke Cancer Institute Shared Resource.

By 2022, the number of BRPC personnel had expanded to 14



Michael Datto, MD, PhD, is inaugural director of the BRPC and current associate vice president and medical director of Duke University Health System Clinical Laboratories and vice chair of Clinical Pathology.



Pathologist and BRPC director **Shannon McCall, MD**, is pictured with molecular oncology students of **Gerald Blobe, MD, PhD**, and **David Hsu, MD, PhD** (not pictured) who were shadowing her in the Surgical Pathology Lab one day in March 2019. “From my perspective we’ve had a wonderful teaching experience,” said McCall at the time. “On this day in particular they got a chance to see how a surgeon (gynecologic surgical oncologist **Andrew Berchuck, MD**) needed a pathologist’s input in real time.”

from just two in 2012. This included the addition, in 2019, of three subspecialized associate director roles: **William Jeck, MD, PhD**, for the Artificial Intelligence (AI) & Computational Pathology service; **Jadee Neff, MD, PhD** for the Genomics service and for the Digital Spatial Profiling service; and **Avani Pendse, MD, PhD** for the Immunohistochemistry and Proteomics services. Not included in the 14—a cadre of second-year Duke Pathologist Assistant students engaged in a work-study capacity at the BRPC and a regular rotation of DCI molecular oncology trainees shadowing pathologists in the “frozens lab.”

“The partnership between our department and DCI over the past decade has resulted in important advances whose impact on cancer research, the field of precision medicine, and patients is immeasurable,” says chair of the Department of Pathology, **Jiaoti Huang, MD, PhD**.

He points out that the BRPC has served as the biospecimen/pathology core for multiple U.S. government-funded, multi-institutional, and homegrown studies. Leading cancer pathologists

have worked hand in glove with other DCI investigators on projects from immune profiling in gastric cancer (**National Cancer Institute SPORE, cancer health disparities**); to multi-institutional digital spatial profiling in breast pre-cancer cells (National Cancer Institute **Breast Pre-Cancer Atlas**); to digital spatial profiling in **potentially pre-cancerous pancreatic lesions** (Allen Pancreatic Cancer Research Lab) to the **establishment of a Senescent Cell Human Tissue Mapping Center** at Duke (National Institutes of Health Cellular Senescence Network) and more.

With McCall as principal investigator, the BRPC **has served as the base** for the National Cancer Institute-supported Southern Division of the Cooperative Human Tissue Network since 2019.

The BRPC, DCI, and the DUHS Clinical Labs have advanced research and clinical practice through a multi-pronged Duke Precision Cancer Medicine Initiative; first with the coding and development, led by Datto, of an in-house Molecular Registry of Tumors (Frameshift MRT) database to organize and optimize previously accumulated and incoming tumor molecular sequencing records, and then the establishment of a multi-disciplinary Molecular Tumor Board—co-directed by oncologists **John Strickler, MD**, and **Matthew McKinney, MD**—to operationalize that data to inform treatment decisions.

Through this initiative, Duke Cancer Institute oncologists can identify whether specific molecular alterations in a patient’s cancer cells are potentially

“druggable” with any existing targeted therapies (including in clinical trials) and whether these alterations are hereditary or tumor-specific. They can opt to receive “therapy alerts” from genetics scientist **Michelle Green, PhD** – Molecular Tumor Board senior research program leader, and main user and manager of Frameshift MRT, when a “hit” for their patients is detected. And their most complicated patient cases are reviewed, on a weekly basis, by the Molecular Tumor Board.

Per Green, the “hit rate” of matching patients to targeted therapies and the number of patients having a dramatic response to treatment continues to increase. Thanks in part to this precisely targeted, personalized medicine, DCI is helping patients in its catchment area and beyond to live longer and live better—turning cancer, for more and more patients with advanced disease, into a manageable chronic disease.

As of August 2022, Frameshift MRT contained comprehensive data from more than 9,000 tumor molecular testing reports for more than 8,000 patients, across more than 60 cancer types, as well as an additional 5,700-plus hereditary (germline) testing reports.

This year, three Duke Cancer Network sites in rural North Carolina gained streamlined access to molecular sequencing tests, the Molecular Registry of Tumors, and the Molecular Tumor Board at DCI, which has so far reviewed more than 50 DCN patient cases (mainly lung, colorectal, prostate, and breast cancers).

In a DCI Survivorship Day forum held this past June, faculty leaders were asked what major advancement had changed the face of cancer care in the past 50 years. Breast oncologist and professor **Carey Anders, MD**, interim chief of the Division of Medical Oncology, Department of Medicine, chose to highlight “tumor sequencing” for its capacity to identify molecular alterations that could be cancer’s “Achilles heels.”

“When I think back to nearly two decades ago, when I was in my training, the amount of information I had about an individual tumor was so limited compared to the information that I currently have in the clinic and that really comes from looking at the genes and the alterations in the genes in the tumor tissue as well as sometimes tumor cells circulating in the blood,” said Anders, who also serves as medical director of the Duke Center for Brain and Spine Metastasis at DCI. “Having that information in



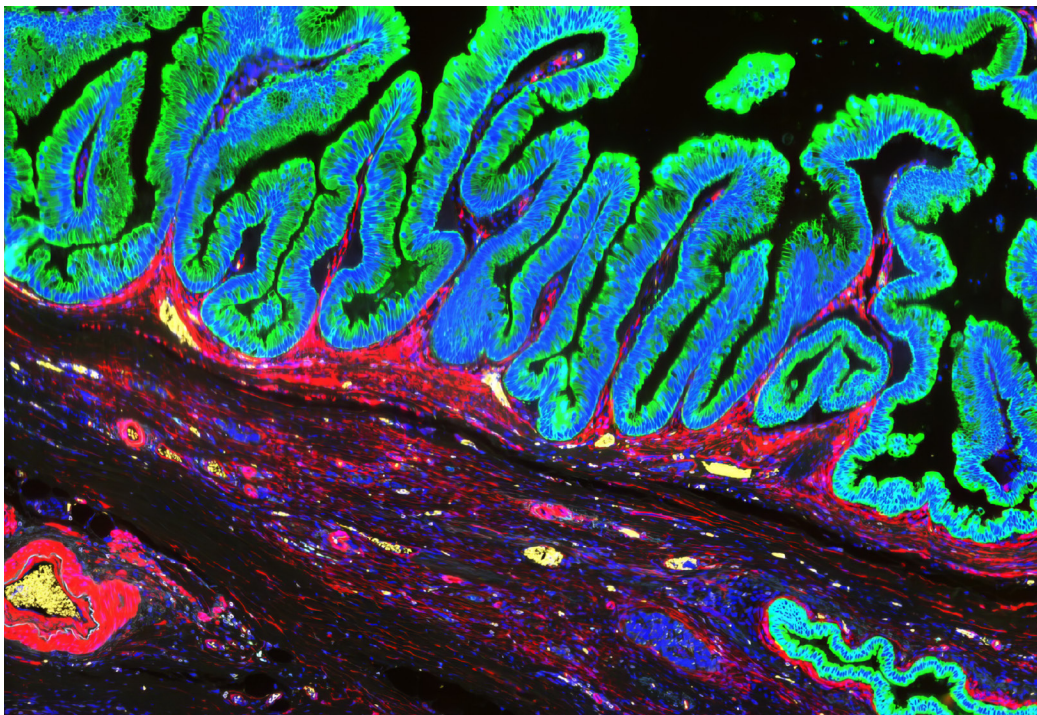
The research advances and clinical successes that have emerged out of the Precision Cancer Medicine Initiative led to **Shannon McCall, MD**, (BRPC director) and **John Strickler, MD**, (co-leader, Molecular Tumor Board) being named, in 2021, as co-leaders (with **Dorothy Sipkins, MD, PhD**, whose lab studies the migration, survival and regeneration of cancerous cells) of DCI’s new National Cancer Institute-designated Precision Cancer Medicine & Investigational Therapeutics Research Program.

hand has been just extraordinary in terms of how we tailor our treatments to our patients. I’ve really loved the program that’s been developed at Duke Cancer Institute. The Molecular Registry of Tumors really helps facilitate clinical care and research. I think we’re getting much more precise (with targeted therapies). We’re more able to sustain responses to treatment over time.”

Investigators have used Frameshift MRT for 45 research projects and counting, including in colorectal, pancreatic, breast and prostate cancers. They’ve used Frameshift MRT to design clinical trials and search for trial candidates based on their tumor molecular profiles; answer research questions; and develop pre-clinical and retrospective research studies. Many of the studies are looking at associations between molecular alterations and patient outcomes.

At least one of the studies, led by **Tomi Akinyemiju, PhD, MS**, (DCI social and molecular cancer epidemiologist and associate director, Community Outreach, Engagement and Equity at DCI) is assessing inequities in genomic testing between races by linking and analyzing data from Frameshift MRT with data from the Duke Tumor Registry.

“One of the most extraordinary aspects of the BRPC is its commitment to collecting samples from patients of diverse racial and ethnic backgrounds,” says **Steven Patierno, PhD**, deputy director



General Surgery resident **Austin Eckhoff, MD**, a researcher in the Allen Laboratory and pathologist **Chanjuan Shi, MD, PhD**, Chief of the Gastrointestinal Pathology Service, used the Nanostring GeoMx Digital Spatial Profiler to more precisely grade pancreatic cysts and assess their potential to turn into cancer. This technology—**spatially-resolved transcriptomics**—was named **2020 “Method of the Year”** by the journal Nature Methods.

“An advantage of the Digital Spatial Profiling system is that it allows for the areas of high grade and low-grade dysplasia to be separately analyzed, giving a better understanding of what is truly driving these cysts towards malignancy,” explains Eckhoff.

of Duke Cancer Institute, a professor in the departments of Medicine, Family Medicine and Community Health, Pharmacology and Cancer Biology, and principal investigator for an NCI SPORE grant on cancer health disparities. “Molecular analysis of tumor samples from a diversity of patients is crucial to equitable translation of cancer medicine. The Duke BRPC is at the forefront of being purposeful and deliberate in diversifying its biobank.”

For more than three years, DCI has been sharing its genomic data (de-identified) with an American Association for Cancer Research-run consortium of institutions—**PROJECT GENIE** (Genomics, Evidence, Neoplasia, Information, Exchange)—which pools the genomic data it receives into a national molecular registry of tumors to be used by researchers for the global good of cancer research and care. McCall is principal investigator.

Thousands of cancer patients have donated their blood, excess tissue, and biopsy samples to the BRPC—all in the name of and the belief in research toward cures for cancer—even though they may not benefit directly. These donations will continue to drive basic, translational, and clinical research forward.

“None of the advancements we’ve made and will make in the future would be possible without them, and we are eternally grateful,” says McCall.

“The BRPC has proven to be a wildly successful experiment in centralized biobanking, with benefits for Duke investigators and patients alike, and serves

as a national model,” says Kastan. “I am so proud of and grateful to Drs. Datto and McCall for their leadership of this effort and for the partnership of the Department of Pathology in making this a reality. I anticipate that the DCI/Pathology partnership will bring further growth and even greater impact in the years to come.” ●

The success of the BRPC over the past decade represents the evolution and extension of the Department of Pathology’s support and commitment to cancer research. Learn about some notable BRPC/DCI cancer research collaborations and why the partnership is core to winning big grants for cancer research. [Read “Partners to the Core.”](#)

Learn how the Precision Cancer Medicine Initiative (PCMI) is advancing research, extending lives, and breaking down barriers to access. [Read “A Seismic Shift: Expanding the Reach of Precision Cancer Medicine.”](#)

[Track BRPC milestones here.](#)

[Learn how Duke is Expanding its footprint in next-generation cancer sequencing tech via the Clinical Molecular Diagnostics Laboratory \(MDL\) here.](#)

THE LEGACY OF DONALD LOVE

ONE OF THE FIRST BLACK DUKE HOSPITAL EMPLOYEES



“Everybody worked hard and together. It was a united effort on a united front. There was a lot to do in a short time and not much help to do it.”

Donald Love

Love with
Bernard F.
Fetter, MD
(left) and Wiley
Forbus, MD
(middle)

BEFORE DONALD NELSON LOVE (1907–1985) ARRIVED AT DUKE HOSPITAL on the morning of June 2, 1930, to begin his first day of work, he had never seen the place before. The hospital and medical school were still under construction, a month away from opening. Love wasn't even sure he was in the right building.

Eventually, though, a friendly man approached and introduced himself: **Wilburt C. Davison, MD**, the founding dean of the Duke University School of Medicine. As Davison showed Love around the hospital and school, making their way around piles of construction materials, Love despaired of ever learning his way around “this giant of

a building.” Eventually, though, he came to know every inch of it: he remained on the staff for the next 44 years.

Love was, if not the first Black employee at Duke Hospital and the School of Medicine, one of the first, beginning his service during a time of legally enforced segregation. He spent the majority of his career with the Department of Pathology, which he joined about 15 years after starting at the hospital.

He wrote that he “had come to the Hospital for a job that I got through my father, John Love, who operated a printing machine on the East Campus for many years.” His father had become acquainted with Davison, and the dean hired the younger Love to perform various tasks, including readying wards for use, changing linens, and various other housekeeping items.

“Everybody worked hard and together,” recalled Love. “Everybody knew everybody. It was a united effort on a united front. There was a lot to do in a short time and not much help to do it.”

Love had a passionate interest in civil rights and actively sought improvement of the conditions created by segregation, while enduring its negative effects with humility and grace. His long career took place in the midst of a social and racial climate that did not favor these odds.

Love’s youngest daughter, Pearlie Love Lewis, recalled her father telling her that one of his tasks was to guide hospital visitors by pressing the elevator button. Then, he had to run up the stairs to meet them, because Black people weren’t allowed in the same elevators at the time.

William Webb Johnston, MD’59, started the Division of Cytology within the Department of Pathology and served as the Chief of Cytopathology for 25 years until his retirement. He remembers Love well.

He observes that the School of Medicine opened in a Durham that was, at the time, “a little country town.” **Wiley Davis Forbus, MD**, a pathologist and medical educator with a degree from Johns Hopkins University, was instrumental in forming the faculty and program of newly established Duke University in 1930.

“Forbus did a miraculous thing in reaching out to find local people who were basically at a high-

school level education,” notes Johnston. “Forbus brought them in and trained them. It was like a miracle—and Love is one of those miracles. There was nobody trained to do his work at the time.”

Love served as an assistant for the Department of Pathology’s autopsy service and was responsible for preparing gross specimens for teaching—organs used to teach medical students anatomy. Johnston recalls the department halls lined with white cots holding hundreds of specimens that Love helped prepare.

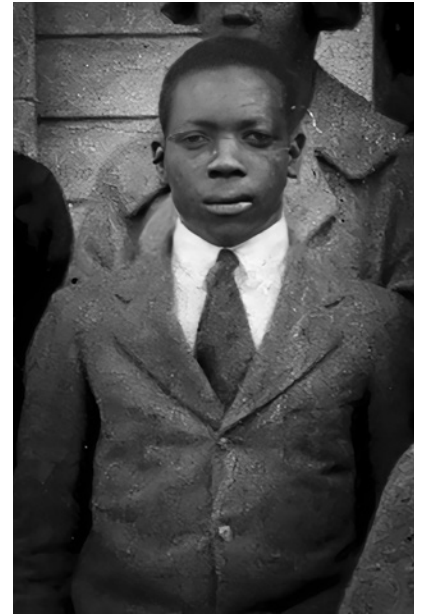
“I remember Donald Love very well, with a great deal of affection and respect,” he recalls. “He was a very intelligent, cooperative member of the department. He was a sort of everyman who was everywhere doing things for everybody. Former department chair Forbus depended on him for a lot of services.”

Love also was responsible for transferring specimens into special preservative solutions to be presented at autopsy conferences.

“He was very adept at that,” says Johnston. “He knew a tremendous amount of pathology, and would comment about the organs and our performance of the autopsy. He was rather astute on that, and learned on the job.”

Donald Love Service Award Reinstated

Love retired in 1974, but was not forgotten as an important member of the department. In 1993 **George Margolis, MD**, with the support of Mary Duke Biddle Trent Semans, chair of the Board of Trustees of the Duke Endowment, presented the idea of honoring Love with the creation of Pathology Department Service Awards, consisting of a Lifetime Service Award and a Self-Development Award. Initially, the recipient of the Lifetime Service Award was identified as one “whose work ethic and efforts [were] most exemplary and/or who [had] been acknowledged by peers and staff as best serving Anatomical Pathology’s mission.” The Self-Development Award was originally distinguished “by



Love as a young student

a career of self-development through educational endeavors which [had] substantially changed the course of his or her life or career.”

Awards were given to 11 recipients between 1993 and 1997. The department reinstated awards in February 2022. The awards provide financial support in the form of reimbursement to staff members enrolled in certificate or degree programs, to assist with incidental costs associated with pursuit of these programs.

In the original award announcement in 1993, Love was recognized as a man of dignity and perseverance who was “aware of his mission in life—to serve humanity with altruistic compassion. He was humble. The extra mile always seemed to be the easiest for him to travel.”

Margolis wrote, “Out of my career-long immersion in medical education for minorities, I consider my participation in the creation of this fund as my most fulfilling experience.”

In a 1993 memo addressed to Leonard Beckum, vice president and vice provost of Duke University at the time, Margolis wrote, “Absent this memorial, a Black employee, whose ties to Duke Hospital and Medical School began with the opening of the institution and spanned more than four decades, would have disappeared from history.” He continued, “In sum: I believe that an award should be presented to a needy medical student, for the purchase of books, or perhaps medical instruments, or aid in the payment of tuition to Duke Medical School.” Margolis’ son Joshua later wrote about his father’s friendship with Love in a paper titled “Dinner with Donald” for Duke’s “Humanitarian Perspectives in Public Policy” course in 1981.

“I have a warm memory of Donald,” said Johnston. “He was always there, always doing his work, never heard a word of complaint out of him. Everybody had a tremendous amount of respect and affection for him. I think it’s wonderful that we’re reinstating the service award.”

Love’s Daughter Follows in His Footsteps

Donald Love’s surviving daughter, Pearlie Love Lewis, lives in Durham and retired in 2004 from IBM, where she was a systems analyst. Her husband is Guster Lewis, Jr., and they have a daughter, Deidra Lewis, who is a Global Business Services Operations



Love with wife Mildred Barbee Jones Love and daughter Pearlie Love Lewis

Manager with UPS in Durham. Their grandson, Ronald Christian Lee, is employed by Durham Public Schools.

“My dad was the youngest of five children,” said Lewis. “He and I were very close and I learned a lot from him, like how to stay focused and try to always do good by other people.” We came from a very religious family. We believed in doing everything we could for others being good to everybody. My father did that through teaching Sunday school, hosting speaking engagements, and serving as president of PTA for my elementary school. He also wrote a religious weekly articles for the Carolina Times Newspaper for over ten years.”

As a young girl, Lewis used to run and skip up and down the Duke Pathology Department halls. She remembers when she came to the hospital to have her tonsils removed. When she realized they were going to give her a shot, she snuck out and says she “escaped to the Pathology halls to hide.”

“My father had a garden and invited Pathology Department members and their families to come out and tend the garden and plant together,” Lewis remembers.

“My family offers special thanks to the Semans and Margolis families for making this dream a reality,” said Lewis about the Service Award. “We vow to embrace the award winner into our family, just as my father would have.” ●

EQUITY, DIVERSITY, AND INCLUSION (EDI) COMMITTEE

STRIVES FOR WELCOMING WORK ENVIRONMENT



Why diversity matters to us

Duke Pathology has a sincere commitment to the recruitment, retention and development of a diverse group of faculty, staff and trainees, with particular attention to underrepresented minorities and women. We recognize that creating a welcoming environment for different perspectives and backgrounds is essential to our success, because it allows space for individuals to collaborate and thrive. We are committed to helping dismantle racism in all forms, and encourage our Department members to speak openly, honestly, and without retribution about their experiences, and to offer ideas for improvement.

In 2017, **Allison Haberstroh Sandler Hall** formed the Diversity, Equity and Inclusion (DEI) Committee and served as director, with support from **Pamela Harris**, director of Administrative Operations. The committee was subsequently renamed as the Equity, Diversity and Inclusion (EDI) Committee to emphasize the crucial importance of equity. In March 2021, **Anne Buckley, MD, PhD**, assumed leadership, with **Kelly Macklin**, HR departmental director, and Harris serving as staff co-leaders. This team continued to work towards our department's diversity and inclusion goals, built upon the strong foundation laid by the team of Hall and Harris.

In 2022, the department recognized the crucial importance of equity by naming **Danielle Elliott Range, MD**, as the first departmental EDI vice chair. She was also named as EDI Committee chair, which she leads along with EDI Staff Director Macklin.

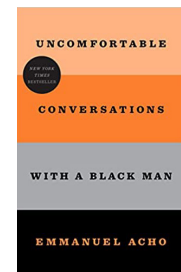


EDI Book Club Inaugural Meeting June 2022

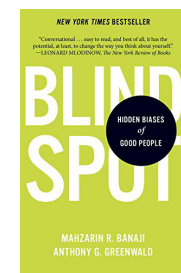
She plans to work with the committee to create a diversity strategic plan that aligns with the tripartite mission of Duke.

We would also like to recognize Anne Buckley, MD, PhD, for her contribution to the department's EDI mission, and for being a dedicated steward of our organization.

"As former co-chair of the Committee, and on behalf of my co-chairs Pam Harris and Kelly Macklin, I would like to formally thank you all, as members of the committee, for your commitment to equity, diversity and inclusion in our department," said Dr. Buckley. "The most active members have given a great deal of their time, talent, and energy to this work, and everyone has contributed in some way to the cause. I look forward to the leadership of Dr. Range, who is re-organizing the structure of EDI activity, and will take us to the next level in this vital endeavor." ►



Inaugural Book Club Book:
Uncomfortable Conversations with a Black Man, by Emmanuel Acho



Book Club Book October 2022: *Blind Spot: Hidden Biases of Good People*, by Mahzarin R. Banaji and Anthony G. Greenwald

Highlights of the EDI Committee's achievements and activities

- Budget for departmental EDI work with approval from Chair Jiaoti Huang, MD, PhD, making it possible to underwrite projects
- Re-establishment of The Donald Love Service Award, making contact with Mr. Love's family, and presentation of the first career development award in many years
- EDI Book Club hosted two successful meetings so far, books being purchased from the budget from a local Black-owned bookstore
- Underrepresented Minority (URM) mentorship in department, including virtual shadowing for undergrads with attendings
- Attendance at numerous EDI meetings, conferences, workshops, and other events, inside and outside Duke
- Memberships in external EDI organizations, including Association of Pathology Chairs (APC), National Medical Association (NMA)
- Recruitment of speakers on EDI topics at multiple Grand Rounds
- Television monitors installed to make us more visible to each other
- Weekly newsletter announcements
- **Webpage for EDI** created, with links to committee member activities and resource libraries.
- EDI library with multiple books purchased and donated; established webpage links to library eBooks
- Race in medicine survey results analyzed in regard to Pathology, with plan for a custom Tableau analysis
- Inclusive representation of learners, staff and leadership on the walls of the department (photos)
- Recruitment fair participation and second-look events
- Action on, and publication of, changes needed in medical education



Andrea Deyrup, MD, PhD Takes Aim at Race-Based Medicine

In October 2021, Dr. Deyrup started a YouTube channel and website featuring videos on race in medicine, based in part on her work as a co-editor revising the 10th edition of Robbins Basic Pathology with Drs. Vinay Kumar, Abul Abbas and Jon Aster. Joseph Graves, Jr., PhD, is also serving as a consultant for that work, to ensure that the focus on equity is supported by the scientific data. You can link to the videos from Dr. Deyrup's website, www.pathologycentral.org.

Based on her findings, she created a Grand Rounds that she presented to the Duke Pathology department in March of 2021 called "Race in Robbins, Data or Distraction?" Dr. Deyrup continues to give talks around the country on this topic.

Follow Dr. Deyrup on Twitter @ATDeyrupMDPhD. Diversify in Path podcast episode 18, featuring Pathology Professor Andrea Deyrup, MD, PhD

WELL-BEING COMMITTEE

Duke Pathology prioritizes the well-being of our team, trainees, and patients. The Well-Being Committee strives to help department members keep this priority top of mind, and provide opportunities to support

one another. Led by **Sarah Bean, MD**, the committee provides all members of the department tools to nurture a state of happiness and health in their emotional, physical, social and workplace well-being. It is founded on the belief that



Sarah Bean, MD, Well-Being Committee Chair

boosting happiness and connection with others, decreasing burnout, and fostering resilience are important to maintain a thriving work culture.

In 2022, the committee launched a **Wellness Resources website landing page** that provides various resources to the department and beyond, including resources like books, podcasts and apps, as well as tips for mindfulness, self-assessment tools and guides for enhancing personal and professional growth.

“We hope to build a solid sense of community, explore ways to improve our workplace, and create a welcoming work environment where everyone feels supported in prioritizing self-care,” said Dr. Bean. ●



Pathology Department Holiday Bake-Off

Committee Activity Highlights

- Pathology Department Battle of the Pies
- Purchased and raffled off 20 tickets for the “Tackle Cancer Tailgate” fundraiser sponsored by DCI Center for Prostate & Urologic Cancers
- Joined forces with the Clinical Laboratories’ Diversity and Inclusion Work Culture Committee to support local schools by donating to collection drives for food and school supplies
- Produced Pawthology Post monthly newsletter featuring department members and their pets
- Hosts a weekly walking club
- Shares opportunities, resources and tips in Pathology Department weekly newsletter
- Invites speakers to give Pathology Grand Rounds presentations, including executive coaches Dr. Sharon Hull and Celeste Stacey, and mindfulness/self-compassion expert Dr. Carrie Adair
- Distributed stress-reducing fidget device to department members

PANDEMIC SILVER LININGS

Clinical Labs Poised for the Future

DUKE UNIVERSITY HEALTH SYSTEM (DUHS) CLINICAL LABORATORIES needed more space and equipment to handle the huge volume of COVID-19 PCR patient samples during the pandemic. To meet the demand, DUHS moved 'mountains' and people to build a new 1,070 square-foot high-throughput molecular microbiology laboratory in the basement of the Duke Eye Center. Additional space was renovated to accommodate

the displaced clinical laboratory sections in Duke South, resulting in a net gain of clinical laboratory space. This state-of-the-art facility has automated test platforms from different vendors that will enable the labs to develop new testing to advance patient care, and to face future pandemics with confidence.

"During the pandemic we focused on two central questions: how do we make the most of what we have today, and can we build an infrastructure for tomorrow that will stand up to the next unprecedented challenge?" reflected **Michael Datto, MD, PhD**, Medical Director and Associate Vice President, Duke Health Clinical Laboratories. "The high throughput automated microbiology laboratory is the result of this new mindset of robust and efficient infrastructure."

This revamp puts the department in a great position to consolidate testing from other labs such as Human Papillomavirus (HPV), *Neisseria gonorrhoeae*/Chlamydia trachomatis (NG/CT) to



PRC Team: (Left to right) Katrina O'Kelley, Clinical Lab Technician; **Melissa Bostick**, Clinical Lab Technician; **Anitra Hatchett**, Clinical Lab Technician II; **Priscilla Womack**, Clinical Lab Technician III; and **Kimberly Cousin**, Clinical Lab Technician II

the Molecular Diagnostics Lab, and also to repatriate tests that were historically sent to other referral labs back to Duke for testing 'in house.' This will allow the Clinical Laboratories to perform more tests with less labor, lower costs, and shorter turnaround times, leading to better patient care.

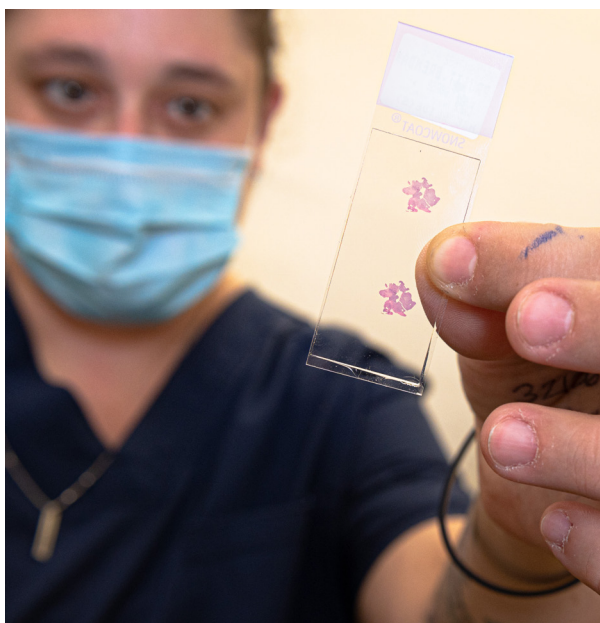
"We learned how to succeed and excel in spite of the pandemic and how to be better prepared to face new challenges in the future," says **Christopher Polage, MD**, Medical Director of the DUHS Clinical Microbiology Laboratory, which expanded its team in 2022, hiring **Diana Alame, MD**, Assistant Professor of Pathology, as Associate Director.

The lab is already benefiting from investments made in the molecular diagnostic infrastructure.

Polage says his lab is now gearing up to perform monkeypox testing in house within the next couple of months.

"We are choosing to invest in this infrastructure so that in the future if we have to ramp up testing again for whatever the next pandemic may bring, this lab can be successful," said Datto.

Other DUHS Clinical Laboratories are seeing positive effects from the new infrastructure. For example, with high-throughput infectious disease testing migrating to the Clinical Microbiology Laboratory, the DUHS Clinical Molecular Diagnostics Lab, overseen by Molecular Pathology, Genetics and Genomics (MPGG), will have capacity to focus on its primary mission:



Melissa Bostick, Clinical Lab Technician

Clinical Microbiology Laboratory now has these molecular test platforms:

- Accelerate
- Cepheid
- Abbott
- DiaSorin
- BioFire
- Roche

"We are choosing to invest in this infrastructure so that, in the future if we have to ramp up testing again for whatever the next pandemic may bring, this lab can be successful."

—Michael Datto, MD, PhD

hereditary and genomic testing of tumor tissue to help guide oncologists in choosing the best possible therapy for their patients.

Moving Boldly into Digital Pathology

Another challenge the Clinical Labs have faced during the pandemic is staff retention. The onus is on management to find innovative ways, in a competitive job market, to both stabilize the workforce and maximize efficiency. This includes promoting cross training between lab areas and making it possible for more staff to work from home.

Towards this end, the Clinical Labs team is making significant investments in its digital infrastructure. In July 2022, Duke Health and the School of Medicine signed a contract with Nference to digitize Duke's entire nine-million-plus slide archive. Digitizing our glass slide archives is no small feat. **Diana Cardona, MD**, Associate Director of Duke Health Clinical Laboratories and Director of Anatomic Pathology; **Kathy L. Grant, PhD, CT (ASCP)**, Director of Operations, Anatomic Pathology; and their Pathology Record Control (PRC) team are leading the digitization of 10,000-20,000 slides each year and will work with Nference to digitize all nine million archival slides over the next 10 years.

The Clinical Laboratories and the Pathology Department's Biorepository & Precision Pathology Center (BRPC) had already begun digitizing their archives following a significant investment, in 2017, in a scanning infrastructure independent of the

ference agreement, and were making those digitized slides available to investigators and clinicians in real time.

"Digitizing entire archives is huge—it puts us front and center as a leader in digital informatics and AI (artificial intelligence)," says Dr. Datto. "Going forward, this capability and capacity positions our team to be on the forefront of AI-assisted diagnoses and has introduced a new level of flexibility that enables pathologists to view slides remotely; working from home when needed."

"This is an exciting time for Duke, the Clinical Laboratories and the Pathology Department," said Cardona. "These efforts will place us on the leading edge of this digital revolution and initiatives to provide higher quality, cost-effective care."

Plans to Expand: Mass Spectrometry and Flow Cytometry Centers of Excellence

Currently, the Clinical Laboratories have two labs conducting mass spectrometry, and four labs doing flow cytometry. Supporting multiple infrastructures

that use similar technology is expensive, and can introduce challenges to staffing the various areas. So, there are plans to create two additional centers over the next year:

Mass Spectrometry Center of Excellence: Led by **Sarah Young, PhD**, a Lab Director and leader in biochemical genetics, and **Ruhan Wei, PhD**, the Assistant Director of DUHS Central Automated Laboratory (DCAL). They are working as a team with **Ashlee Stiles, PhD**, and **Deeksha Bali, PhD**, the Co-Directors of the Biochemical Genetics Lab.

- DCAL offers high throughput testing for pain management and therapeutic drug monitoring.
- The Biochemical Genetics Lab will conduct mass spectrometry testing and enzyme-based testing, including programs focused on specific diseases, such as Pompe Disease. Duke is one of the groups that developed the therapy for Pompe disease, and researches inborn errors in metabolism. The lab will join forces with DCAL to combine infrastructure.



Kimberly Cousin, Clinical Lab Technician II



Ruhan Wei, PhD, Assistant Director of DUHS Central Automated Laboratory (DCAL)

"This is where talented people with different expertise work and support each other as a team to provide better patient care," said Wei. "I am proud to be a part of the team."

Flow Cytometry Center of Excellence: Led by **Anand Lagoo, MD, PhD**, Pathology Professor, and **Wen Shuai, MD, MS**, Assistant Professor of Pathology, who joined the lab as Assistant Medical Director in July 2022.

- Three clinical labs conduct flow cytometry-based testing:
 - Flow Cytometry Lab conducts multicolor, high complexity assays for diagnosis, prognosis and treatment monitoring for lymphoma and leukemia.
 - Flow Cytometry-based tests in the Immunology Lab are used to diagnose immunodeficiency syndromes.
 - Flow Cytometry testing done in the Stem Cell Lab evaluates immune system reconstitution using stem cell therapies.

Moving these labs into a single location combines technical expertise and equipment and sets the labs up to provide more robust services. By practicing in a new, more cost-effective way, Duke is poised for whatever the future may hold.

In the meantime, our Clinical Laboratory staff continue to put in extra hours and effort to handle

Tests transferred internally from Molecular Diagnostics Laboratory:

- Chlamydia trachomatis Nucleic Acid Amplification Test (NAAT)
- Neisseria gonorrhea NAAT
- Human Papillomavirus (HPV) NAAT
- Epstein-Barr Virus (EBV) NAAT

Tests brought back to Duke from external laboratories and performed locally at lower cost and with shorter turn-around-time:

- Adenovirus NAAT
- HHV-6 NAAT
- Toxoplasma gondii NAAT
- Mycoplasma species NAAT
- Ureaplasma species NAAT

"This is an exciting time for Duke, the Clinical Laboratories and the Pathology Department. These efforts will place us on the leading edge of this digital revolution and initiatives to provide higher quality, cost-effective care."

—Diana Cardona, MD

both personnel and supply shortages in the wake of the pandemic.

"This has been quite a journey for our labs and team," noted Polage. "We're indebted to the technicians, technologists, and staff, who are really the ones making it all happen. We are incredibly grateful for them and all of the work they have done." ●

*This article is an update to the feature in our 2020 Report, **Testing the System**.*

THE PATH TO PAY IT FORWARD

We sat down with major donors Todd Brady, (MD'99, PhD'98) and Andrea Darling (MA'96, JD'99), a married couple of 26 years whose son, Alex, started as a freshman at Duke University in fall 2022. We took a walk down memory lane as they reflected on their Duke experiences, past and present. Brady and Darling described their path around Duke being connected by mentors, explained why they choose to give back, and shared what they hope to accomplish through their philanthropy. They are changing the world, and are dedicated to raising children who are passionate about making a positive difference.

Student Experience: Mentor Connections

Brady and Darling met while they were undergraduates at Dartmouth College. He was a year ahead of her when he applied to Duke University Medical School.

"I got in, amazingly," Brady recalled. "Andrea followed me to Duke for Romance Studies. The caliber of faculty at the graduate school is what attracted us."

Darling pursued her master's degree in French Literature, then attended Duke University School of Law. They both graduated in 1999.

To help fund her studies, Darling participated in a work-study program throughout her time as a student at Dartmouth, in addition to working at Duke part-time as well. They are big believers in that kind of financial support.

They reminisced about their favorite things about Duke

"I loved going to the pottery studio, and to the practice studios below the music library," said Darling. "Duke was a whole new ball game, with bright, funny, serious thinkers. People who were committed. I had professors in graduate school who were legends in their fields, like David F. Bell, PhD, Professor Emeritus of Romance Studies; and Linda Orr, PhD, Professor Emeritus of Romance Studies. They were dedicated to the craft of teaching. I enjoyed learning all the pedagogy. I got to do that as a graduate student. I loved learning how to teach undergrads. I knew how important it was to know



Todd Brady with son Alex

how to teach, and to focus on giving them the best possible education," she said.

Brady's experience as a medical student was vastly different. "Duke is a premier medical school, and I focused on research,"

he recalled. "My experience was remarkable in that I didn't apply to the MD-PhD program, per se. I went to medical school first, then did research in my third year. At that point, I applied for graduate school. Duke was remarkably accommodating. As an undergrad, I was a philosophy/psychology major, not biology or genetics major, for instance. So, it was a leap to go to graduate school for a hard-core science! I was funded as a graduate student, and blown away by how open it was— particularly the Pathology Department. I interviewed potential thesis advisors, and chose James D. Crapo, MD, who left to be chair of Medicine for National Jewish in Denver while I was pursuing my PhD degree. After he left, I joined the lab of the late Erwin Fridovich, PhD, James B. Duke Professor Emeritus of Medicine, and prominent biochemist at Duke for more than 60 years. I was always in the lab," he said.

by MORGAN POPE and JAMIE BOTTA

The Department is grateful to **Todd Brady and Andrea Darling** and the many individuals who choose to provide such thoughtful philanthropic support. If you would like to learn more about leaving a legacy gift to the Department of Pathology, please reach out to DIRECTOR OF DEVELOPMENT, MORGAN POPE, at 919-451-5093, or morgan.pope@duke.edu.

Scientific icons Crapo and Fridovich became Brady's mentors, along with the late Jo Rae Wright, former Vice Provost and Dean of Duke's Graduate School, and a pioneer in her field of cell biology.

"She was an amazing person, accomplished in cell biology, and exemplary of the kind of reception I got from the Graduate School," said Brady. "She was the first Dean of the Graduate School to form a Board of Visitors, which I was fortunate to be a part of. She had a positive influence on both of us. She was nurturing, supportive, and had a humanistic approach," affirmed Brady.

"All three of my mentors were important in my development," continued Brady. "In terms of my path, I'm still working on that same science. It's amazing how people can change your life. I started out wanting to be a pulmonologist and have ended up in biotech," he said.

Darling pointed out that both of their sets of mentors were from various departments across Duke.

"Duke is a place now, and was a place then, where you create your path, luck, and opportunities because there are people here to support you and guide you," said Darling. "I left the graduate school, went to law school, and studied in Paris. I got to meld all my interests. The pedagogy I did as a graduate student isn't something you find everywhere," she noted.

Brady agrees that Duke is a place that supports students in creating their own paths.

"Pursuing MD and PhD degrees was something we cobbled together in real time," said Brady. It's a huge advantage to be able to combine your interests like that. In my experience in biotech, combinations of unique aspects of science can be critical. It's classic Duke to combine a variety of disciplines," he said.

Darling is especially grateful for her experience at Duke learning how to teach.

"I recently talked to a friend from Dartmouth about our experience learning to be teachers through our experience as graduate students," she shared. "In my role now as a Law & Policy Consultant at MLPB (f/k/a Medical-Legal Partnership Boston), I teach about social determinants of health to medical residents,



From left to right: Nick, Andrea, Alex, Todd

"All three of my mentors were important in my development. In terms of my path, I'm still working on that same science. It's amazing how people can change your life."

Todd Brady, MD, PhD



THE PATH TO PAY IT FORWARD

social workers, and other health care providers. I'm constantly going back to the lessons I learned at Duke about conveying information to people who will go on to use that learning in service of others," she said.

The couple is broadly interested in the concept of teaching and enabling people to serve others and make the world a better place. They are doing this in their own professional ways, by researching new drugs and working toward health equity, while volunteering on local boards and finding other creative ways to give back.

Brady's Path to Pathology

Brady attributes his journey to Duke Pathology to his thesis advisor, Crapo.

"I was interested in Pathology because that's what biotech is about – mitigating disease," he recalled. "They had this program in integrated toxicology that Edward Levin, PhD, Professor in Psychiatry and Behavioral Sciences, was the head of. I thought toxicology was interesting. At that time, the Gulf War was going on, and soldiers were coming back with strange diseases. Pathology is fundamental to medicine. That's why we go into medicine – to help fight disease. I wanted to work in Pathology to advance science and research cures. There is no more noble goal in life than to help make people's lives healthier and happier. That's what translational-clinical science is," he said.

"At first, I was annoyed by the biotech influence in our lab," he confesses. "But I realized that, through biotech, I had the chance to help millions of people and to advance society broadly. We need to endeavor to change the world. We should leave this planet a little bit nicer than when got here, and one way to do that is to help patients. That's why I'm interested in Pathology broadly. It's fundamental to translational science and biotech. **We need to endeavor to change the world and one way we do that is to advance science to help people,**" said Brady.

Since 2012, Brady has served as the President and Chief Executive Officer of Aldeyra, a biotech company he founded. Aldeyra is currently developing therapies for ocular lymphoma, dry eye disease, allergic conjunctivitis, and systemic immune-mediated diseases, including chronic cough and alcoholic hepatitis.

Brady returned to Duke Pathology in 2018 as the keynote speaker for its annual retreat. In addition to giving us an account of his extraordinary journey from academic medicine to business entrepreneurship at Aldeyra, he gave a vivid picture of the hurdles and challenges he encountered before successfully bringing discoveries made in the lab into marketable therapeutic drugs.

Transition to Being Duke Parents

The couple's oldest son, Alex, started his undergraduate journey at Duke in fall 2022. We asked them what they are most looking forward to about Alex being a student here.

"The Duke undergraduate program is so strong," affirmed Darling. "We'd visited Duke several times, but Alex and Todd went down for an admissions session, and he called me to say he was blown away. When Alex got his acceptance letter, he burst the door open and was almost levitating, he was so happy. I want him to be comfortable broadly exploring the incredible range of intellectual and other opportunities that Duke offers. I know what he thinks he wants to do, and he may end up doing that, but there might be things he hasn't yet been exposed to. He might want to explore and take advantage of all the opportunities here," said Darling.

Alex has many different interests, including the culinary and medical fields. He also loves chemistry and science. He's also traveled quite a bit, spending two months during his gap year volunteering in Spain, a month each on farms in Costa Rica and Guatemala, and several weeks on a dairy farm in

"I grew up as a beneficiary of other people's philanthropy, so it has always been a dream for me to pay it forward. I'm trying to do my part to make this world a better place."

Andrea Darling, MA, JD

England. He is enjoying his first Duke Spanish class this fall.

"Alex experienced compassionate medical care during his early life, and in his heart he wants to give back and pay it forward," said Brady. He'd like to be in a health care position as an empath," he said.

This young man is already paying it forward. Alex started a coffee company, Wolf Rock Coffee Roasters, that sources socially-indexed coffee beans and powers their coffee roaster with solar energy. It donates a portion of its profits to conservation programs, and by profit-sharing with the Wolf Conservation Organization, it is working to protect the wolf population and educate the community about wildlife conservation.

The couple's younger son, Nick is also giving back. He is developing a family of inexpensive 3D-printed orthotic and orthopedic devices, which he hopes will aid patients in circumstances where care would otherwise be inaccessible.

"Duke is amazing," said Darling. It's more advanced than when we went there. It blew us away during orientation. I couldn't be happier for Duke. When we were there as graduate students, we knew it was something special. It's a premier top-10 institution, and we are excited for Alex to be a part of it."

How do you see your philanthropy as a way to impact the future?

"One way is changing the planet for the better in terms of helping create healthier, happier lives for people," said Brady. "We can think in terms of medicines and therapies -bench to bedside."

Andrea is thinking more broadly about social change, working to foster positive change in her work in addressing health-related social needs like housing instability and food insecurity. She has experience as a defense attorney who worked in child welfare. "That's where I saw how the system is broken, and what an absolute necessity safe and stable housing is," she recalled. "I'm looking at that array of fundamental needs and hoping to do my part to advance health equity."

Inspired to make a difference, Andrea and Todd have established a planned gift at Duke that will provide much-needed support for the next generation of PhD graduate students in Pathology. Half of their legacy gift will provide endowed fellowship funds for the Graduate School to recruit the best



From left to right: Andrea, Alex, Nick, Todd

and brightest candidates in pathology. The other half of their gift will support graduate education initiatives within the pathology department to ensure that future learners will have a rich and dynamic experience that propels them into service of society. Each year, Andrea and Todd also provide current funds to meet the greatest needs within the graduate school and support today's trainees in the Department of Pathology.

The Todd Brady and Andrea Darling Scholarship for 2021-2022 was awarded to Asjah Wallace, an incoming PhD student who started in the fall of 2021.

"I grew up as a beneficiary of other people's philanthropy, so it has always been a dream for me to pay it forward," said Darling. "I'm grateful to be able to help some folks to be in a position they wouldn't have been in otherwise thanks to the philanthropy of others, like I was. I'm trying to do my part to make this world a better place."

With gratitude

We are grateful to Brady and Darling for the many ways they embody Duke's closely-held value of "knowledge in service of society." They are dedicated to transforming future generations, starting with their own family and extending out into the world through their professional work, volunteer service, advocacy, and philanthropy. We admire their commitment to pay it forward in creative and impactful ways, and look forward to seeing how they and their family continue to impact the future positively.


Diana Alame, MD, MBE

*Assistant Professor/
Associate Director for the Clinical
Microbiology Laboratory*

Dr. Alame graduated from the University of Illinois College of Medicine at Rockford, with a healthcare scholarship with the United States Air Force (USAF), where she began first as an intern in Emergency Medicine and then served as a Flight Surgeon. She went on to lead as the commander of the Flight Medicine Clinic, where she oversaw operations.

After military service, Dr. Alame completed Clinical Pathology Residency and a Medical Microbiology Fellowship at Massachusetts General Hospital. During that time, she also completed a master's degree in Bioethics at Harvard Medical School, then became the Medical Director of the Clinical Microbiology Laboratory at Thomas Jefferson University Hospital in Philadelphia.

Dr. Alame's academic interests include analysis of novel diagnostics, including rapid identification and antimicrobial susceptibility tests. She also studies the laboratory's role in clinical decision support tools, interpretive resulting, test utilization, and antimicrobial stewardship efforts.


Eric Carlsen, MD, PhD

Assistant Professor

Dr. Carlsen is part of our Hematopathology Division, and directs the Hematology Laboratories. He earned his MD and PhD degrees from the University of Texas Medical Branch in Galveston, where his research focused on Leishmania. His AP/CP pathology residency was at the University of Pittsburgh Medical Center, where he also completed a fellowship in Hematopathology.

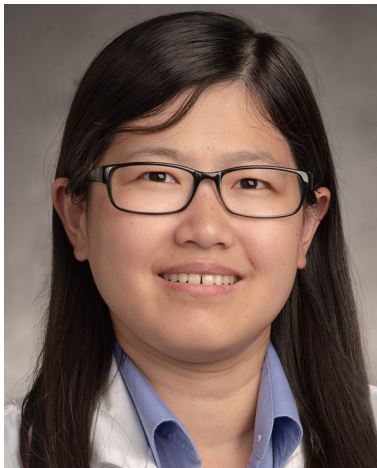
His research interests include cutaneous lymphoma; molecular methods for diagnosis and prognostication of myeloid and lymphoid neoplasms; minimal residual disease modalities; infectious hematopathology; and emerging technology and automation in laboratory hematology.


Fengming Chen, MD, PhD

Assistant Professor

Dr. Chen primarily practices GI and liver pathology. She graduated from Tongji Medical College of Huazhong University of Science and Technology in China, with additional training in internal medicine and clinical gastroenterology.

She earned a PhD degree in Pharmaceutical Science from the University of Maryland, Baltimore. After that, Dr. Chen worked as a research fellow at Children's Hospital of Philadelphia (CHOP) and Penn State University. She completed an AP/CP Residency at Penn State Hershey Medical Center, followed by a fellowship in Surgical Pathology at Emory University and a GI/Liver Pathology Fellowship at Johns Hopkins University. Her academic interests include clinical and translational research related to the gastrointestinal system, liver, and pancreas.



Wei Chen, MD
Assistant Professor

Dr. Chen practices primarily in GI and liver pathology. She obtained her MD degree from Zhejiang University School of Medicine in China, and then completed an internal medicine residency and a medical oncology fellowship at Sir Run Run Shaw Hospital of Zhejiang University. She then came to the U.S. for AP/CP residency training in pathology at Case Western Reserve University Hospital in Cleveland, followed by fellowships in surgical pathology at the Brigham and Women's Hospital in Boston, and a GI pathology fellowship at the University of Pittsburgh.



Colin Duckett, PhD
Professor

As Vice Dean for Basic Science, Dr. Duckett serves as a liaison between the Dean's office and the basic science community. His duties include oversight of the biomedical graduate programs, postdoctoral office, animal care program, core facilities, and research lab space utilization in the School of Medicine.

Dr. Duckett received his PhD in biochemistry from the University of London and completed his postdoctoral work at the University of Chicago, where he co-discovered the IAP family of signaling intermediates. He was a Howard Hughes Medical Institute fellow, and a special fellow of the Leukemia and Lymphoma Society. He subsequently served as a section chief in the Metabolism Branch of the National Cancer Institute, NIH.

Dr. Duckett spent 15 years at the University of Michigan where he was a professor of Pathology and Internal Medicine. He also served as director of the Cancer Biology Program in the Comprehensive Cancer Center and as scientific director of the North Campus Research Complex at the University of Michigan.



Rachel Factor, MD, MS
Associate Professor

Dr. Factor's primary focus is breast pathology and cytopathology. She came to us from the University of Utah, where she was Director of Breast Pathology, and Co-Director of the Cytology Fellowship. She is a graduate of Princeton University, and obtained her MD from Albert Einstein College of Medicine along with a Masters from Johns Hopkins School of Public Health in Molecular Microbiology and Immunology.

After an internal medicine internship at NYU Langone Medical Center, Dr. Factor completed her anatomic pathology residency at Brigham and Women's Hospital, with fellowships in both anatomic pathology and cytopathology, also at Brigham and Women's Hospital. In 2009, she took a position with the University of Utah, where she has had a strong record of academic accomplishment.

Much of her work has concentrated in the field of biomarkers for breast cancer, particularly high-risk variants, and their correlation with histologic subtypes. She has also published a considerable number of papers in the areas of cytopathology and statistical analysis of pathology data, particularly with respect to factors introducing bias in interpretation.



Karra Jones, MD, PhD

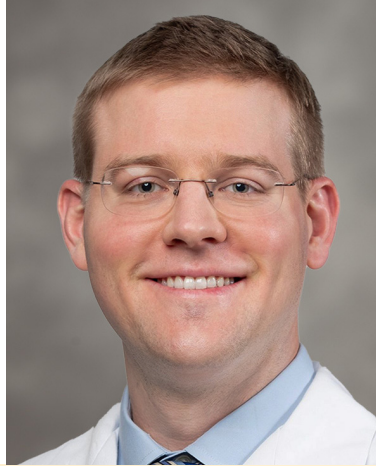
Associate Professor, Muscle & Nerve Pathology Section Head

In her role as Muscle & Nerve Pathology Section Head, Dr. Jones directs and designs the neuromuscular diagnostic services provided in-house and to regional providers in the consultative Muscle and Nerve Pathology Service. Jones plans expansion of the service to a larger outreach capacity with enhanced modalities to assist with genetic neuromuscular diagnosis.

Dr. Jones received her MD and PhD from the University of Kansas School of Medicine. She completed her combined Anatomic and Neuropathology residency and fellowship at the University of California, San Diego. She then practiced diagnostic neuropathology, led the neuromuscular pathology service, and assisted in biorepository and biomarker laboratory efforts at UCSD.

Jones was a Clinical Associate Professor of Pathology at the University of Iowa where she expanded her neuromuscular expertise and continued to practice neurosurgical, autopsy, and forensic neuropathology.

Her research interests include inherited muscular dystrophies and myopathies, and she is a consultant for muscular dystrophy and myopathy gene therapy clinical trials.



Wesley (Wes) Mallinger, DO

Assistant Professor of Pathology, Pathology Clinical Services

Dr. Mallinger's responsibilities include serving as a pathologist, and helping oversee the blood bank at Duke Raleigh Hospital. He obtained his undergraduate degree from the University of Florida and did his medical school training at Edward Via College of Osteopathic Medicine in Spartanburg, South Carolina. He completed his Anatomic and Clinical Pathology residency at the University of Arkansas for Medical Sciences in Little Rock, Arkansas, and completed fellowship training in cytopathology at the University of Virginia in Charlottesville, Virginia.



Mikhail (Misha) Nikiforov, PhD

Professor

Dr. Nikiforov has published a considerable number of high visibility papers in the fields of melanoma and multiple myeloma, and his research focus is on identifying the metabolic vulnerabilities in these malignancies.

He comes to us from the Wake Forest School of Medicine and Wake Forest Comprehensive Cancer Center, where he was Professor of Cancer Biology and co-Leader of the Cancer Genetics and Metabolism Program. He graduated from Lomonosov Moscow State University, and obtained his PhD from University of Illinois at Chicago. His studies of the mechanisms of melanoma initiation were supported by a Dermatology Foundation Career Development Award and Melanoma Research Foundation Junior Investigator Award.

From 2008 to 2018, he worked as Associate Professor and Professor at Roswell Park Comprehensive Cancer Center where his research programs on melanoma progression and metabolism and multiple myeloma drug resistance were supported by multiple National Cancer Institute grants and an American Cancer Society Research Scholar Grant. In addition to the NCI grants, his work was sponsored by the International Myeloma Foundation Brian D. Novis Senior Research Award.



Sergio Piña-Oviedo, MD
Assistant Professor

Prior to Dr. Piña-Oviedo's pathology residency, he conducted research in neurovirology, viral oncology and molecular biology at the Center for Neurovirology at Temple University in Philadelphia, Pennsylvania. He completed AP/CP residency at Houston Methodist Hospital and did fellowships in oncologic surgical pathology (Chief Fellow) and hematopathology at The University of Texas – M. D. Anderson Cancer Center in Houston.

Before his appointment at Duke, he was Assistant Professor and Director of the Hematology laboratory in the Department of Pathology at the University of Arkansas for Medical Sciences.

Dr. Piña-Oviedo's academic interests include hematolymphoid tumors, thoracic/lung pathology, mediastinal lymphomas, the correlation between morphology and molecular alterations of tumors, infectious diseases, and the history of pathology.



Stefan Rentas, PhD, FACM
Assistant Professor and Laboratory Director

Dr. Rentas received his PhD in Biomedical Sciences from McMaster University where he studied molecular pathways that regulate human hematopoietic stem cell self-renewal. He then pursued an ABMGG Laboratory Genetics and Genomics Fellowship at Children's Hospital of Philadelphia.

As a fellow, Dr. Rentas investigated the utility of RNA sequencing as a tool for diagnosing rare neurodevelopmental disorders. After completing fellowship training, he joined the Department of Pathology and Laboratory Medicine at UNC Chapel Hill to perform clinical sign out of deleterious germline variants that were initially identified by research exome or genome sequencing.

Now as a member of our department and the DUHS Clinical Laboratories, he serves as an Assistant Director in the Division of Molecular Pathology, Genetics and Genomics, supporting the cytogenetics and molecular diagnostics laboratories.



Michelle Schneider, MB, BCh, BAO
Assistant Professor

Dr. Schneider has returned to Duke Pathology as part of our Dermatopathology Diagnostic team. Her previous experience at Duke included fellowships in both Dermatopathology and Surgical Pathology.

She spent five years preceding her return to Duke serving as a Clinical Assistant Professor in Dermatopathology at the University of Calgary, Canada.

Dr. Schneider completed her medical school training in Dublin, Ireland, at the Royal College of Surgeons. She served as an intern in medicine and surgery there, followed by a year as a senior house officer in internal medicine and geriatrics. Her AP/CP training was at Baylor College of Medicine in Houston.



Wen Shuai, MD, MS
Assistant Professor

Dr. Shuai joined our Hematopathology Division, and is a Molecular Diagnostics Laboratory faculty member as well.

She obtained her MD degree from Hunan Medical University in China, and also served as a resident in obstetrics and gynecology. She came to the U.S. and after obtaining an MS in computer science, worked as a research assistant at Vanderbilt University.

Dr. Shuai began her training in pathology as an AP/CP resident at the University of Miami, and completed her residency at the University of Texas Health Science Center in Houston. She completed fellowships in both hematopathology and molecular genetics at MD Anderson Cancer Center in Houston.



Francis J. Sun, DVM, DACLAM, MBA
Assistant Professor

Dr. Sun is Associate Director, Chief of Clinical Services for USDA covered species in the Division of Laboratory Animal Resources (DLAR). His current research interests are in ferrets as models for immunology and vaccine development as well as non-human primates and swine as models for transplant rejection.

He attended North Carolina State University College of Veterinary Medicine and earned his Doctorate of Veterinary Medicine in 1996. He became a Diplomate of the American College of Laboratory Animal Medicine in 2004. He then completed a Masters of Business Administration at East Carolina University Business School in 2019.



Ruhan Wei, PhD
Assistant Professor

Dr. Wei's clinical research interests include clinical chemistry, toxicology, endocrinology, data science, and the clinical application of LC-MS/MS.

She obtained her BS from the University of Toronto. She then received her PhD in Clinical and Bioanalytical Chemistry at Cleveland State University; the only Commission on Accreditation in Clinical Chemistry (ComACC) accredited clinical chemistry PhD program in the United States. As a graduate student, Dr. Wei investigated the role of Ribonuclease L in lipid homeostasis and lung inflammation. After graduate school, she completed a Clinical Biochemistry fellowship at Cleveland Clinic. During her fellowship training, Dr. Wei participated in a few quality improvement and assay development and validation projects.



Cumulative Covid tests since January 2, 2020: **733,362**

*Left to right: **Christopher Polage, MD**, Medical Director of the DUHS Clinical Microbiology Laboratory; **Ruth Bean, MT, (ASCP)**, Senior Technologist, Molecular Microbiology; **Mark Lee, PhD**, Assistant Director of Clinical Microbiology, in front of Roche Diagnostics Cobas 8800 System*

Anatomic Path Cases



FY21 **130,648**

FY22 **133,906**

Autopsies



FY21 **262**

FY22 **321**

Laboratory Tests

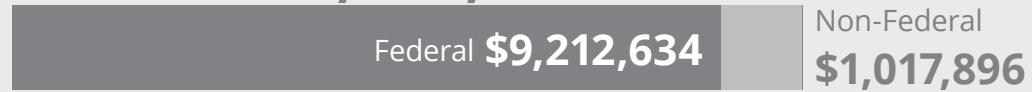


FY21 **11,096,928**

FY22 **11,344,444**

Grant Funding

FY21 Total: **\$10,230,530**

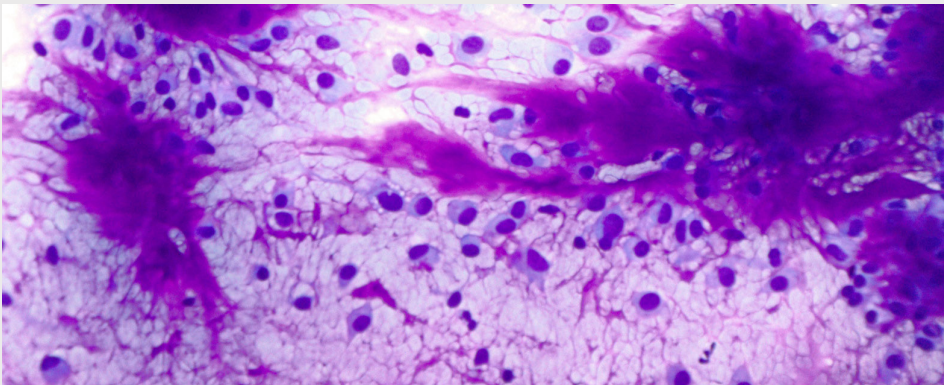


FY22 Total: **\$11,027,593**



Grant figures based on primary appointment grants

Cytology Cases



Xiaoyin (Sara) Jiang, MD, FCAP

FY21 **39,443**

FY22 **41,025**

Paraffin Blocks



FY21 **340,437**

FY22 **349,192**

Please join us in
acknowledging our
long-time staff
for their years
of service in our
department.



Debra Andersen

Debra “Debbie” Andersen, formerly Debbie Harris, retired from her role as GME Program Coordinator in April 2022 after nearly 48 years of service at Duke, 31 of them in Pathology. Mrs. Andersen was a strong supporter and tireless advocate for the residents and fellows who trained during her tenure, expertly and effortlessly attending to all the tasks that go on behind the scenes to keep the Residency and Fellowship Programs compliant and successful.

In 1991, she joined our department as Administrative Coordinator for the Pathology Training Program. She served as the primary liaison with the Accreditation Council for Graduate Medical Education (ACGME) and the Institutional Committee for Graduate Medical Education (ICGME).

Over the span of her career, she assured our compliance with the ACGME’s complex regulations, a role that required not only extraordinary diligence but also a great deal of diplomacy.

Mrs. Andersen orchestrated the physical, regulatory, and financial complications of residency and

fellowship training in two different hospitals with different sets of ground rules, information technology systems, and faculty. She managed that extraordinary responsibility for more than two decades with consummate skill.

“Graduate medical education is a keystone and signature accomplishment of our department, and much of our success in this area can be traced to her tireless efforts,” wrote David Howell, MD, PhD, in his nomination letter for the Susan B. Clark Administrative Leadership Award in 2012, which Andersen won.

“She is responsible each year for the immense task of orchestrating the recruitment of new house staff, and deserves a large share of the credit for the constantly high quality of our residents. Many of these talented young pathologists have gone on to positions of leadership in diagnostic pathology, research, and teaching, and not a few have ended up as mainstays on our own faculty. She was an example of tranquility and resolution in the face of adversity, an inspiration to those of us who worked with her, and a one-person support team in whom her charges placed great trust,” continued Dr. Howell.

Read the positive comments that other leaders and colleagues shared about Mrs. Anderson here.



Susan Reeves

On Sept. 10, 2021, Susan Reeves, a constant presence and guiding force in the Department of Pathology's PhotoPath group for four decades, retired. For the first part of her extraordinary career, Susan concentrated on the production and assembly of micrographs and gross photographs for scholarship and teaching. Generations of faculty pathologists and trainees sat with her at the microscope and learned the fine art and science of composing and recording images for optimal clarity and effect. Susan led our PhotoPath Lab through the transition from film to digital, which required shifting processes and vast new technical skills.

More recently, she took on the formidable task of kick-starting our website and producing periodicals, work she executed with both great skill and a deep understanding of the department's history. This allowed Susan to create our first three Pathology Annual Reports, enhanced by her portraiture skill and beautiful photography.

In all these endeavors, her efforts were informed by a passion for detail and a desire to continue the Photopath Lab's historical philosophy of high-quality craft and superior customer service, creating "illustrations of a disease process," as lab founder Carl Bishop described. Susan also shared her musical talent by coordinating the Pathological Lyres annual caroling in the wards, a much-anticipated event.

"Susan was, from the onset, unfailingly positive. I never heard her say anything negative about anyone or anything, ever! This positivity and enthusiasm were really special. AND, she was super professionally. She had outstanding taste and knew how images can best tell a story. 'Getting things right' was her goal, and she did whatever it took to make that happen. Great positivity and great skills do not always go hand in hand, but, as a winning combination, she had both!" - Peter C. Burger, MD, Professor Emeritus of Pathology, The Johns Hopkins University School of Medicine

Please join us in thanking Susan for all of her years of service and wishing her all the best in her future endeavors.

Read the positive comments that other leaders and colleagues shared about Susan [here](#).



Stanley "Stan" J. Robboy, MD

Professor Emeritus of Pathology

Vice-Chair for Diagnostic Pathology in the Department of Pathology

Member of the Duke Cancer Institute

Dr. Robboy began his career as a resident at Massachusetts General Hospital, served in the U.S. Army, and returned as a young faculty member. It was there that his colleagues and he discovered a cancer had been tied to a drug, diethylstilbestrol (DES), that had crossed the placental barrier. For the next 15 years, he says, "that became my life at Mass General."

At Duke, Dr. Robboy was Professor and Vice Chairman of Pathology, Professor of Obstetrics and Gynecology, and Chief of the Division of Diagnostic Pathology. In addition, he was elected as president-elect and then president of the College of American Pathologists (CAP) (2009-2013).

During his leadership of the CAP, he sought to determine

the health of the pathologist workforce in the U.S. As part of the work, Dr. Robboy discovered that the Association of American Medical Colleges (AAMC), the agency which reports the most authoritative analysis of the workforce for all parts of the U.S. House of Medicine annually, was undercounting by 40 percent the actual number of pathologists. He found that all persons with subspecialty training (fellowship years), such as in cytopathology, dermatopathology, hematopathology, forensic pathology, and others, were being omitted. This finding clarified why the specialty of pathology seemingly had shrunk during the past decade.

In the July 16, 2020, issue of JAMA Network Open, Dr. Robboy and his CAP colleagues reported their discovery that AAMC's flawed methodology adversely counted pathologists for workforce purposes.

Despite "retiring," Dr. Robboy remains active with the CAP, serving on the Council for Membership and Professional Affairs and Policy Roundtable Subcommittee. In addition, he and his team are currently working with the AAMC to correct and improve the algorithm used for workforce counts.

Read the positive comments that leaders and colleagues shared about Dr. Robboy here.



Claudia Jones, MD

Vice-Chair of Faculty for the Department of Pathology (through Dec. 2021, when Sarah Bean MD, assumed the role)

Chief of the Division of Cytopathology (through Dec. 2021, when Danielle Elliott Range MD FCA was appointed)

Associate Professor Emeritus of Pathology

Dr. Jones, who retired from our department on Nov. 30, 2021, had a successful, 22-year career with Duke Pathology. In honor of her many contributions to our department, medical center, and university, she was named Associate Professor of Pathology Emeritus on Dec. 1, 2021.

She is a Durham, N.C., native and has deep ties to the area and Duke University, where she received both her undergraduate and medical degrees. She was a devoted mentor, teacher, diagnostic pathologist, and leader, serving as Chief of the Division of Cytopathology for more than 20 years and Vice Chair for Faculty for the final four years of her career.

"Her leadership style was one of quiet confidence and patient persuasion," remembered David Howell, MD, PhD. "She was an

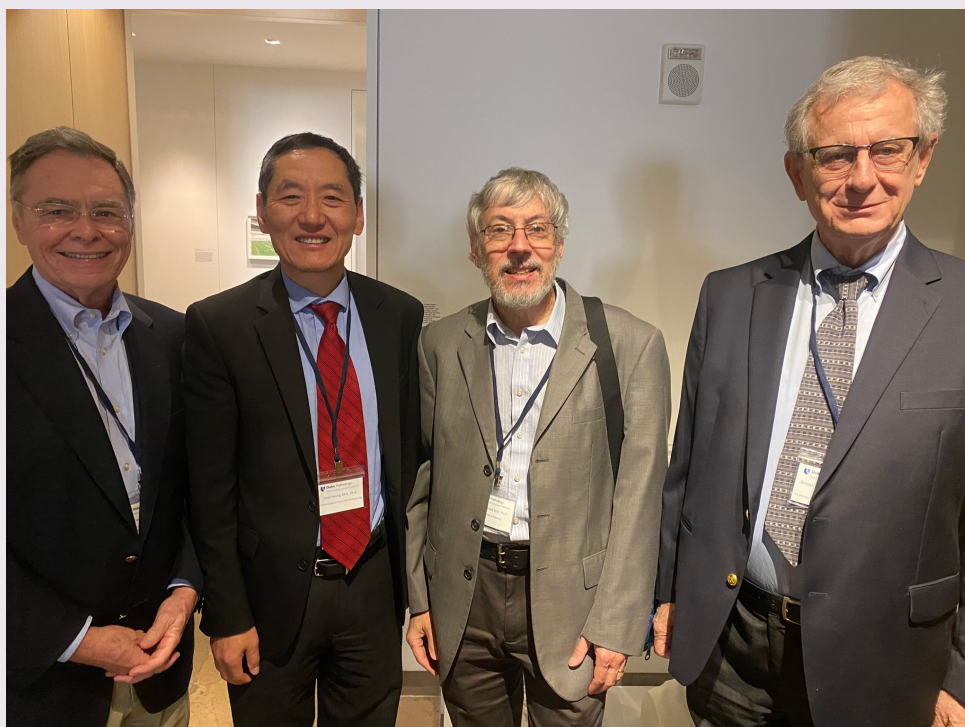
outstanding role model for any pathologist or trainee who had the good fortune to work with her."

She completed her pathology residency at Vanderbilt University, then moved to California for a cytopathology fellowship at the University of California San Francisco, training under the renowned Britt-Marie Ljung, MD, among others. She joined the faculty at Vanderbilt in 1991 and became the director of the Vanderbilt FNA clinic.

In 1999, Dr. Jones returned to Duke as a member of our Cytopathology division, becoming chief of that division in 2001, and ultimately becoming Vice Chair for Faculty in 2017. In the latter capacity, she oversaw numerous recruitments that have augmented our faculty with talented new colleagues, and offered mentoring and support to faculty. Under Dr. Jones' guidance, cytopathology became an indispensable part of Duke's clinical diagnostic service team.

Dr. Jones was also responsible for establishing a free-standing FNA clinic with ultrasound capabilities that provided our patients with an easy method for evaluation of clinically concerning lesions. She was an outstanding colleague, mentor, and educator. In addition to being the "go-to" faculty member for diagnostically challenging cases, she was an outstanding source of mentorship, support, and common-sense advice. Her wisdom and expertise were invaluable.

Read the positive comments that leaders and colleagues shared about Dr. Jones here.



Left to right: Dr. Sanfilippo, Dr. Huang, Dr. Howell, Dr. Michalopoulos

In October 2022, department members gathered in person for the first time since the pandemic started for the **Annual Scientific Retreat** in downtown Durham. **Jiaoti Huang, MD, PhD**, opened and closed the retreat, with **Thomas J. Cummings, MD**, and **Soman Abraham, PhD**, moderating sessions which were followed by a poster session and awards ceremony. **George Michalopoulos, MD, PhD**, who runs one of the most successful pathology departments in the country at the University of Pittsburgh School of Medicine and UPMC, was the keynote speaker. **Fred Sanfilippo, MD, PhD**, alumnus and previous faculty member, namesake of our Fred and Janet Sanfilippo Fellowship in Surgical Pathology and Resident Research Award, was a special guest.

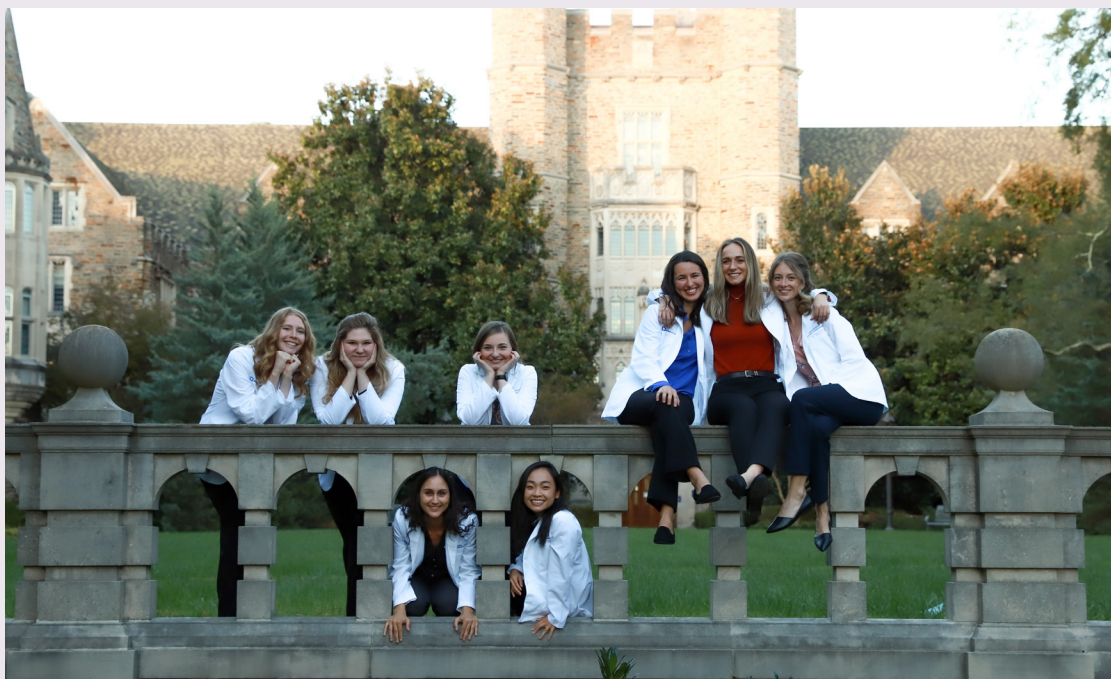


Duke Pathology hosted a luncheon in August 2022 to honor long-term employees who reached career milestones that year. Awardees met at The Commons Steakhouse in Duke's Broadhead Center, and Department Chair **Jiaoti Huang, MD, PhD**, recognized their years of service.

Front table left to right: Staff Specialist **Colette R. Thurston** (40 years); Senior Regulatory Coordinator **Elizabeth A. Handel** (35 years); Director of Graduate Studies in Pathology **Soman N. Abraham, PhD** (25 years)

Back table left to right: Senior Business Manager **Pamela Harris**, Residency Program Director **Thomas J. Cummings** (25 years); Professor of Pathology **Roger F. McLendon, MD** (30 years); Department Chair **Jiaoti Huang, MD, PhD**

Table on right, from left to right: Professor of Pathology **Qianben Wang, PhD** (5 years); Senior Research Scientist and Lab Manager **Hongyan Wang, PhD** (5 years)



PA Class 2022–2023, top left to right: Stephanie Shulkowski, Emily Flingos, Kim Thomas, Ann Marie Scazzero, Kendel Reed, Jessica McMahon.
Bottom left to right: Gigi Dasilva, Annette Phan



Left to right: Amy Hagan, MLT, ASCP, and Karen Wright, MLS, ASCP, part of the DUHS Central Automated Laboratory (DCAL) team



In 2022, **William Jeck, MD, PhD**, was approved as an Associate Member of the Duke Cancer Institute (DCI). His primary DCI research program is the Precision Cancer Medicine & Investigational Therapeutics (PCMIT) program.



Left to right: **Wen Chi Foo, MD, Xiaoyin (Sara) Jiang, MD, FCAP, David Howell, MD, PhD, Sarah Bean, MD**



Jodine Zane, Microbiology Medical Lab Scientist, Advanced, standing in front of GeneXpert Infinity machine, which enables a comprehensive menu of tests to be run on a single system, by a single operator, in a moderately complex, real-time environment.



Left to right: group of PGY-4 residents in 2022: **Gina Sotolongo, MD; David McKenzie, MD; Derald Charles, MD; Monica Abdelmalak, MD; Evelyn Kliassov, MD; with Thomas J. Cummings, MD, Residency Program Director.**



In 2022, Two Pathology PhD candidates were awarded the prestigious Paul and Lauren Ghaffari Fellowship: Alexandra "Xanne" Migglebrink (left, above) and Amelia Schirmer. The \$5,000 stipend to support research is given annually to just four outstanding graduate students across Duke pursuing studies related to oncology.



Myra Townes, Clinical Microbiology Supervisor. She is celebrating nearly 39 years of service and retires November 30, 2022.



PhD Graduate Program alumnus **Yuanfan Yang, PhD**, matched into neurosurgery residency at the University of Alabama at Birmingham, which has a strong collaboration in neuro-oncology with Duke.



PhD Graduate Program alumnus, **Pakawat “Nick” Chongsathidkiet, PhD**, (above left) recently matched into the Duke Neurosurgery residency program starting June 2022. Neurosurgery is one of the most competitive and difficult residencies to obtain, especially for foreign medical graduates, and Chongsathidkiet is the second international student from our program to match in the same year.

Faculty Leadership

Jiaoti Huang, MD, PhD	Chair, Department of Pathology Distinguished University Professor Johnston and West Endowed Chair
David N. Howell, MD, PhD	Sr. Vice Chair and AP&T Chair
Sarah M. Bean, MD	Vice Chair of Faculty
Rex Bentley, MD	Vice Chair and Director of Surgical Pathology
Diana Cardona, MD	Vice Chair and Director, DUHS Anatomic Pathology Labs
Thomas Cummings, MD	Vice Chair and Director of Residency Program
Rajesh Dash, MD	Vice Chair for Pathology Informatics
Michael Datto, MD, PhD	Vice Chair and Director of Clinical Pathology
Shannon J. McCall, MD	Vice Chair of Translational Research
Danielle Elliott Range, MD	Vice Chair of Equity, Diversity and Inclusion
Herman Staats, PhD	Vice Chair for Research
Elizabeth Boswell, MD	Chief, Pathology and Laboratory Medicine, Durham VA

Autopsy Pathology

Carolyn Glass, MD, PhD	Associate Professor, Director
Louis R. DiBernardo, MD	Assistant Professor
William Jeck, MD, PhD	Assistant Professor
Laura Hale, MD, PhD	Professor
Elizabeth N. Pavlisko, MD	Associate Professor
Kyle Strickland, MD, PhD	Associate Professor

Breast Pathology

Rachel Factor, MD	Associate Professor, Section Head
Sarah M. Bean, MD	Professor
Rex Bentley, MD	Professor
Rajesh Dash, MD	Professor

Cardiovascular Pathology

Carolyn Glass, MD, PhD	Associate Professor, Section Head
Louis R. DiBernardo, MD	Assistant Professor
Elizabeth N. Pavlisko, MD	Associate Professor

Cytopathology/FNA

Danielle Elliott Range, MD	Associate Professor, Director; Director Cytopath Lab
Sarah M. Bean, MD	Professor
Raj C. Dash, MD	Professor
Rachel Factor, MD	Associate Professor
Wen-Chi Foo, MD	Associate Professor
Xiaoyin "Sara" Jiang, MD	Associate Professor
Avani Pendse, MD, PhD	Associate Professor
Kyle Strickland, MD, PhD	Assistant Professor

Dermatopathology

Maria Angelica Selim, MD	Professor, Section Head
Rami Al-Rohil, MBBS	Associate Professor
Kenneth Ellington, MD	Assistant Professor
Michelle Schneider, MB, BCH, BAO	Assistant Professor

Gastrointestinal Pathology

Chanjuan Shi, MD	Professor, Section Head
Diana M. Cardona, MD	Associate Professor; Director, DUHS Anatomic Pathology Labs
Fengming Chen, MD, PhD	Assistant Professor
Wei Chen, MD	Assistant Professor
Cynthia D. Guy, MD	Professor
William Jeck, MD, PhD	Assistant Professor
Shannon J. McCall, MD	Associate Professor
Avani Pendse, MD, PhD	Associate Professor

Genitourinary Pathology

Wen-Chi Foo, MD	Associate Professor, Section Head
Jiaoti Huang, MD, PhD	Professor
John F. Madden, MD, PhD	Associate Professor
Avani Pendse, MD, PhD	Associate Professor

Gynecologic Pathology

Rex Bentley, MD	Professor, Section Head
Sarah M. Bean, MD	Professor
Kyle Strickland, MD, PhD	Associate Professor

Head, Neck & Endocrine Pathology

Xiaoyin "Sara" Jiang, MD	Associate Professor, Section Head
John F. Madden, MD, PhD	Associate Professor
Danielle Elliott Range, MD	Associate Professor

Hematopathology

Ken He Young, MD, PhD	Professor, Section Head
Eric Carlsen, MD, PhD	Assistant Professor; Director, Hematopathology Lab
Anand S. Lagoo, MD, PhD	Professor; Director, Flow Cytometry Lab
Jadee Neff, MD, PhD	Assistant Professor; Assistant Director MPGG
Sergio Piña-Oviedo, MD	Assistant Professor
Wen Shuai, MD, PhD	Assistant Professor, Assistant Director Flow Cytometry Lab
Endi Wang, MD, PhD	Professor

Infectious Pathology

John F. Madden, MD, PhD	Associate Professor
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Liver Pathology

Cynthia D. Guy, MD	Professor, Section Head
Diana M. Cardona, MD	Associate Professor
Fengming Chen, MD, PhD	Assistant Professor
Wei Chen, MD	Assistant Professor
William Jeck, MD, PhD	Assistant Professor
Shannon J. McCall, MD	Associate Professor
Chanjuan Shi, MD	Professor
Avani Pendse, MD, PhD	Associate Professor

Neuropathology

Thomas J. Cummings, MD	Professor, Neuropath Director
Anne F. Buckley, MD, PhD	Assistant Professor
Karra Jones, MD, PhD	Associate Professor
Giselle López, MD, PhD	Assistant Professor
Roger McLendon, MD	Professor
Shih-Hsiu "Jerry" Wang, MD, PhD	Assistant Professor; Associate Director Autopsy

Nerve and Muscle Pathology

Karra Jones, MD, PhD	Associate Professor, Section Head
Anne F. Buckley, MD, PhD	Assistant Professor; Director EMICL
Thomas J. Cummings, MD	Professor
Shih-Hsiu "Jerry" Wang, MD, PhD	Assistant Professor

Ophthalmic Pathology

Thomas J. Cummings, MD	Professor, Section Head
Anne F. Buckley, MD, PhD	Assistant Professor
Alan D. Proia, MD, PhD	Professor
Shih-Hsiu "Jerry" Wang, MD, PhD	Assistant Professor

Pulmonary /Thoracic Pathology

Elizabeth N. Pavlisko, MD	Associate Professor, Section Head; Director Image Cytometry; Associate Director IPT
Carolyn Glass, MD, PhD	Associate Professor
Sergio Piña-Oviedo, MD	Assistant Professor
Victor Roggli, MD	Professor

Renal Pathology

Laura Barisoni, MD	Professor, Section Head
Anne F. Buckley, MD, PhD	Assistant Professor
David N. Howell, MD, PhD	Professor

Soft Tissue & Bone Pathology

Diana M. Cardona, MD	Associate Professor, Section Head
Wei Chen, MD	Assistant Professor
William Jeck, MD, PhD	Assistant Professor
Rex Bentley, MD	Professor
Thomas J. Cummings, MD	Professor

Transplant Pathology

David N. Howell, MD, PhD	Professor, Section Head
Laura Barisoni, MD	Professor
Anne F. Buckley, MD, PhD	Assistant Professor
Diana M. Cardona, MD	Associate Professor
Louis R. DiBernardo, MD	Assistant Professor
Carolyn Glass, MD, PhD	Associate Professor
Elizabeth N. Pavlisko, MD	Associate Professor
Sergio Piña-Oviedo, MD	Assistant Professor

Undergraduate Medical Education

Andrea Deyrup, MD, PhD	Professor, Director of Undergraduate Medical Education
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VA Faculty

Elizabeth Boswell, MD	Assistant Professor, Chief
Christopher Alley, MD	Assistant Professor
Maureane Hoffman, MD, PhD	Professor

Duke Regional Pathology

Michael Waugh, MD	Assistant Professor, Chief and Medical Director
Maureen Bauer, MD	Assistant Professor
Kenneth Ellington, MD	Assistant Professor

Duke Raleigh Pathology

Rebecca Varley, MD	Assistant Professor, CLIA Director
Wesley Mallinger, DO	Assistant Professor
Maggie Stoecker, MD	Assistant Professor; Director Morris Building and Bone Marrow Transplant Labs
Huiwen Bill Xie, MD, PhD	Assistant Professor

Research Faculty

Soman Abraham, PhD	Grace Kerby Distinguished Professor; Director of PhD Program
Laura Barisoni, MD	Professor
Anne F. Buckley, MD, PhD	Assistant Professor
Dongfeng Chen, PhD	Associate Professor
Ming Chen, PhD	Associate Professor
Zhong Chen, PhD	Assistant Professor
Colin Duckett, PhD	Professor
Jeffrey Everitt, DVM	Professor
Laura Hale, MD, PhD	Professor
Yiping He, PhD	Associate Professor
Maureane Hoffman, MD, PhD	Professor
Jiaoti Huang, MD, PhD	Distinguished University Professor
Chelsea Landon, PhD	Assistant Professor
Giselle López, MD, PhD	Assistant Professor
Everardo Macias, PhD	Assistant Professor
Roger McLendon, MD	Professor
Sara Miller, PhD	Professor
Misha Nikiforov, PhD	Professor
John Norton, DVM, PhD	Professor
Jung Wook Park, PhD	Rollie Assistant Professor of Correlative Pathology

Christopher Pirozzi, PhD	Assistant Professor
Salvatore Pizzo, MD, PhD	Distinguished Professor
Randall Reynolds, DVM	Associate Professor
Herman Staats, PhD	Professor
Francis Sun, DMV	Assistant Professor
Mary Sunday, MD, PhD	Professor
Ken He Young, MD, PhD	Professor
Qianben Wang, PhD	Professor
Zijun Yidan Xu-Monette, PhD	Assistant Professor

Retired from Clinical Practice

Edward Bossen, MD	Professor Emeritus
William Bradford, MD	Professor
Patrick Buckley, MD, PhD	Professor
Robert Jennings, MD	James B Duke Distinguished Professor Emeritus
Claudia Jones, MD	Associate Professor Emeritus
Barth Reller, MD	Professor
Stanley Robboy, MD	Professor Emeritus
John D. Shelburne, MD, PhD	Professor Emeritus

Directors

Michael Datto, MD, PhD	Associate Professor; Associate Vice President and Medical Director of DUHS Laboratories
Nicholas Bandarenko, MD	Associate Professor; CLIA Director Transfusion
Dongfeng Chen, PhD	Associate Professor; Director CTIL
Kristen Deak, PhD	Assistant Professor; Associate Director Molecular Pathology, Genetics and Genomics (MPGG)
Nancy Henshaw, PhD	Assistant Professor; Assistant Director Clinical Microbiology
Mark Lee, PhD	Assistant Professor; Assistant Director Clinical Microbiology
Bruce Lobaugh, PhD	Professor; Director Central Automated Lab; Reference Lab; POCT
Jessica Poisson, MD	Associate Professor; Director Transfusion
Christopher Polage, MD	Associate Professor; Medical Director Clinical Microbiology
Catherine Rehder, PhD	Associate Professor; Director MPGG
Stefan Rentas, PhD	Assistant Professor; Assistant Director MPGG
Beth Shaz, MD	Professor; Co-Director Stem Cell Lab
John Toffaletti, PhD	Professor; Dir. Blood Gas Lab; CHCL; CPED
Ruhan Wei, PhD	Assistant Professor; Assistant Technical Director Chemistry

Administration

Amy Orange, BS, CFM	Chief Department Administrator
Jeff Thomasson, MBA	Director of Finance
Pamela Harris, MBA	Director of Administrative Operation
Kelly Macklin, BS	HR Director
Jamie Botta, MBA	Communications Strategist
Jawanna Bell, CEAP, AS	GME Coordinator, Residency/Fellowships
Michelle Johnson, MHS, PA, (ASCP), CM	Program Director, PA Program
Meg Atchison, BA	Program Coordinator, PhD Program
Kesha Tisdell, BS	Program Coordinator, Fellowship Program

Services

Shannon J. McCall, MD, Director	BioRepository & Precision Pathology
Jeffrey Everitt, DVM, Director	Research Animal Services
Sara Miller, PhD, Director	Research EM
Shannon J. McCall, MD, Director	Research Immunohistology
Steve Conlon	PhotoPath

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Chairman Dr. Wiley D. Forbus using photomicroscopy system (1943)