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A Year Like No Other



The last twelve months, we have been through a year of many challenges. We were thrust into this pandemic and faced with natural disasters that resulted in catastrophic destruction affecting many families and communities. That has left us with many lessons to learn and to prepare ourselves for problems and obstacles that may lie ahead.

We are proud of how the Pathology Department responded and how its members went above and beyond their duties. Despite all the difficulties, the Department of Pathology was able to advance the scientific research and its educational mission. A key goal for academic Pathology is to produce high-quality publications. Under the leadership of Dr. Yin, 2021 was a strong year, with 51 accepted publications by 21 faculty members.

We face another Holiday season during the pandemic. The Department of Pathology has contributed its effort in the battle against Covid-19. It is important to keep everyone safe by following the general precautions and public health guidance so we can enjoy the company of families, friends and colleagues.

This time is an opportunity to appreciate our accomplishments in 2021 and to commit once again to many success stories for 2022. Wishing you and your families happiness and joy during these special times and a healthy and thriving 2022!

HAPPY HOLIDAYS



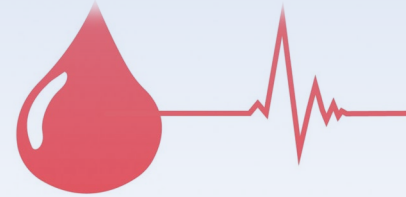
Clinical News

Successful Laboratory Accreditation

The Association for the Advancement of Blood & Biotherapies (AABB) assessment recently inspected the Blood Bank Laboratory and Transfusion Medicine Service. The inspection took place at the Tulane Hospital, Downtown Campus, at the end of November 2021. No deficiencies were reported following the AABB inspection. This success was a result of great teamwork attributed to Dr. Tim Peterson, M.D., Director, and the laboratory staff who received praises for having quality processes and procedures, as well as clarity of documentation. This certification is valid for two years.



Association for the
Advancement of
Blood & Biotherapies



National Accreditation for the PA Program

The PA Program has been inspected by The National Accreditation Agency for Clinical Laboratory Sciences (NAACLS) on November 18th for accreditation and the final decision will be made in early 2022.

Why you should get the COVID-19 booster:

Fortune favors the prepared immune system

The Centers for Disease Control (CDC) published updates regarding COVID-19 vaccine effectiveness. Although COVID-19 vaccines remain effective in preventing severe illness, recent data show that vaccine becomes less effective over time. With the emergence of the recent variant, Omicron; the need for protection against the virus is heightened. Studies reported increased transmissibility of the Omicron variant with immune evasion.

This lower effectiveness can be a result of the combination of decreasing protection as time passes since getting vaccinated and the increase of the Delta variant severity. Clinical trials have proven that a booster shot increased the immune response and improved protection against COVID-19. Whether you had Pfizer, Moderna or Johnson & Johnson, the CDC allows you to mix and match dosing for booster shots. Tulane provides the COVID-19 booster as a service to faculty, students, and staff eligible to receive a booster at different locations. The vaccine clinic is currently operating in the lobby of the JBJ building, 1324 Tulane Avenue and the Uptown clinic is located in the 1834 Club on the second floor of the LBC.



To make an appointment to receive your booster vaccine click [here](#).

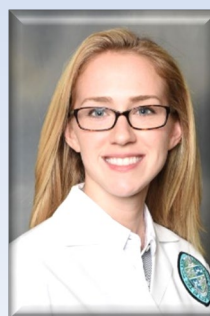
Education News

Welcoming 2021-22 Chief Residents

The Department of Pathology is excited to announce the Co-Chief Residents for the 2022-23 academic year:



Yousif Al-Rubaye, MD



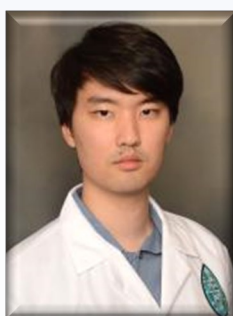
Dana Perez, MD

The Co-Chiefs provide guidance to fellow residents, input and feedback about residency program as voting members of the Program Evaluation Committee, and act as our ambassadors to the larger Tulane and Pathology communities.

Also, we would like to thank the three residents who served as Co-Chiefs for 2021:



Nate McLaughlin, MD



Jonathan Shih, MD



Amber Sours, MD

Our Co-Chief Residents worked hard and brilliantly to solve a number of Rubik's Cube-type puzzles to keep our numerous schedules on target and on time (rotations, call, tumor board and didactics), were instrumental in new resident recruitment and orientation, and helped guide our new curriculum efforts, including bootcamp, lab management, didactic conferences, and more.

Thanks again to all the Co-Chief Residents!

Pathology Residency Program

The Pathology Residency Program has been busy reviewing over 30 applications from medical students applying to our program. For everyone safety, all interviews are held virtually. The interview process started November 5, 2021, and continues into January, after which the selection committee will submit a rank list. Match Day for the selection of candidates for the three positions is going to be announced soon.

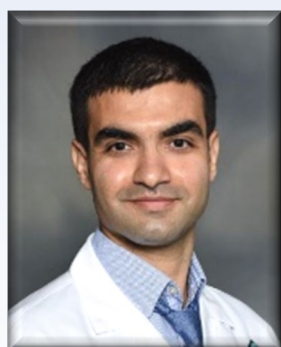
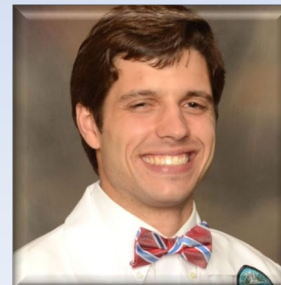
Education News



Pathology Residency Program

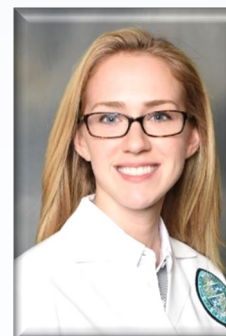
Congratulations to our Junior Residents:

Robert Wood, MD, PGY2, is our new peer-elected Junior Representative to the Pathology Residency Program Evaluation Committee (PEC) for 2021-22. The PEC consists of faculty and resident representatives to review our program, and improve, update and initiate new endeavors. We welcome Dr. Wood!



Younes Aljohmani, MD, PGY2, is our newly selected resident representative to the CAP Residents' Forum for 2021-23. Representatives serve for 2 years, learn about national educational and professional initiatives in Pathology, and share this information with our residents. We look forward to learning about the national scene from Younes !

We thank Dana Perez, MD, PGY3, for her service as peer-elected Junior Representative to the PEC 2019-21. Her thoughtful contributions were greatly valued by the committee and helped us to move forward in several key projects.



Join us in welcoming our new members

The Department of Pathology is welcoming:

[Erica Price](#), MS, PA(ASCP)CM

Adjunct Instructor, Pathologists' Assistant Program

Forensic Pathology Module Director, Autopsy Pathology Course

Specialties: Autopsy Pathology, Forensic Pathology



Education News

Pathologists' Assistant Program

We are excited to share the success and growth of the Graduate Studies program in the department.

- The first-year students received their white coats on Friday 12/17/2021; as they completed their first year and moved onto their clerkship rotation sites for their second year.
- Second-year PA student presented interesting case reports from their anatomic Pathology clerkship on 12/16/2021.
- The graduation ceremony of the second-year PA was Saturday 12/18/2021.

At a Glance

Pathologists' Assistant Program

Two classes, a total of 21 students

The first class started in Jan 2020 and will graduate in Dec 2021.

The third class starts in Jan. 2022.

Kudos to Sarah Garner and Marissa Spenser for their hard works!



PA Students Highlights



First year PA student, [Lindsey Milgrom](#), was elected as the AAPA Student Committee Vice-Chair.
Congratulations Lindsey!



First year PA student, [Alexis Lello](#), was elected as the PathSIG PA Student Liaison.
Congratulations Alexis!

Education News

Graduate Students in 2020-2021 and 2021-2022

We are excited to share the success and growth of the Graduate Studies program in the Department of Pathology & Laboratory Medicine.

Our Pathobiology Ph.D. students are trained thoroughly in human disease, cell biology, microbiology, molecular biology, and genetics using human specimens. Their research is grounded in human disease pathology and provided with current developments and approaches to address components of disease: pathogenesis, morphologic changes and clinical manifestations.

Congratulations to all graduate students from 2020 to 2022:

Yi Yu, graduated on December 1st, **2020** with a Ph.D., School of Science and Engineering.

Dissertation title: "Investigation of ADAR1 and ADARs-mediated RNA editing in Epstein-Barr virus reactivation"

Mentors: Dr. Zhen Lin and Dr. Erik Flemington



Jacob D. Kahn, graduated on August 2nd, **2021** with a Master of Science degree.

Thesis title: Role of ferroptosis in Epstein-Barr virus-associated lymphoma.

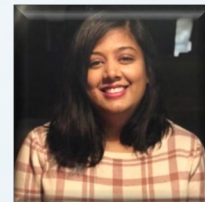
Mentor: Dr. Zhen Lin



Rida Iftikhar defended her Ph.D. Thesis on November 29th, **2021**.

Dissertation title: "Role of elevated adipose triglyceride lipase (ATGL) in lipid droplets (LDs) utilization to promote colon cancer growth reinforced by obesity"

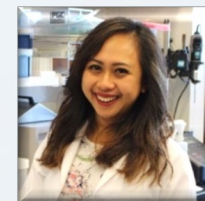
Mentor: Dr. Suzana Savkovic



Alifiani Bonita Hartono, will be finishing her Ph.D. thesis in **2022**.

Research interest: "EWS-WT1 regulated kinases in DSRCT tumorigenesis"

Mentor: Dr. Sean Lee



Nicholas Jabara, will be graduating in May **2022** with Master of Science Degree.

Mentor: Dr. Chiung-Kuei (CK) Huang



Research News

Publications Highlights



Recently, the laboratory of [Loren Gragert, Ph.D.](#), Assistant Professor, who specializes in population genetics and informatics in transplantation, published a study entitled:

“Predicting HLA-DPB1 permissive probabilities through a DPB1 prediction service towards the optimization of HCT donor selection” in Human Immunology journal. The authors of this paper are Ray Sajulga, Abeer Madbouly, Stephanie Fingerson, Loren Gragert, Pradeep Bashyal, Yung-Tsi Bolon, and Martin Maiers. The study was a result of the collaboration between the National Marrow Donor Program, Minneapolis, the Center for International Blood and Marrow Transplant Research, Minneapolis, and Tulane University School of Medicine, New Orleans.

The study explores the stem cell registries recruit and genotype volunteers as potential unrelated hematopoietic stem cell donors. Hematopoietic stem cell transplants can successfully treat a variety of blood diseases, including leukemias and lymphomas. Genotyping of human leukocyte antigen (HLA) loci has expanded over time with clinical guidelines for optimal donor-recipient matching. In the last, donor-recipient compatibility for the HLA-DPB1 locus was discovered to improve outcomes, however, until 2015 new recruits were not genotyped for the HLA-DPB1 locus, thus as of 2021 only 20% of the US stem cell registry has a DPB1 typing.

The main objective of the study was to develop HLA haplotype frequency data and a web-based donor selection tool to help transplant centers

identify for a given patient which potential donors in their registry search results are most likely to have an HLA-DPB1 genotype that will confer the best outcomes. The HLA-DPB1 locus is separated from the more commonly HLA-DRB1 and HLA-DQB1 by a recombination hotspot, thus it was previously thought that accurate HLA-DPB1 predictions from incomplete HLA genotyping would not be feasible. Our results showed that DPB1 match probabilities are well-calibrated and can effectively guide most efficient donor selection.

The scientific team validated their predictive algorithm in the setting of stem cell registry search using a retrospective dataset of donors and donor-recipient pairs where HLA-DPB1 was performed. Dr. Gragert explained the method: “We developed a web tool that takes as an input an incomplete or ambiguous HLA genotyping and predicts DPB1 permissive mismatch status based on T-cell epitope categories.” This web tool is currently available to transplant centers that are part of the National Marrow Donor Program network.

We asked Dr. Gragert about any future work related to the study: “We are currently integrating match predictions for the HLA-DQA1, DPA1, DPB1 loci into the registry match algorithm, HapLogic. We also aim to use higher resolution HLA data based on more expansive genotyping using next-generation sequencing to inform donor-recipient compatibility predictions.”

The findings suggest that HLA-DPB1 imputation also has operational applications in organ transplantation and research applications in immune gene association studies.

Click [here](#) to read the paper.

Research News

Publication Highlights

Obesity continues to be a global health crisis. It is linked to various conditions such as diabetes, heart disease, and cancer. Studies indicated that being overweight increases the risk of colon cancer. The rising cases of colon cancer due to obesity have raised the need to understand the processes involved in the development of these tumors.

The laboratory of [Dr. Suzana D. Savkovic](#) has published a new manuscript in *Oncogenesis*, which is a high impact journal. The title of study is: [“Elevated ATGL in colon cancer cells and cancer stem cells promotes metabolic and tumorigenic reprogramming reinforced by obesity”](#). The new study aimed to investigate the role of the adipose triglyceride lipase (ATGL) in colonic tumorigenesis. This work was a result of collaboration between the Department of Pathology and Laboratory Medicine at Tulane University School of Medicine, the Department of Surgery, Louisiana State University Health Sciences Center, and the NorthShore University Research Institute, Affiliate of University of Chicago Pritzker School of Medicine.

Human cancers are characterized by metabolic changes that involve the accumulation of lipid droplets (LDs), which play a critical role in the development of colonic tumors. This study showed that high levels of adipose triglyceride lipase (ATGL) were augmented in colonic tumorigenesis and the lack of ATGL attenuated the growth of colon cancer stem cells. In addition, the research

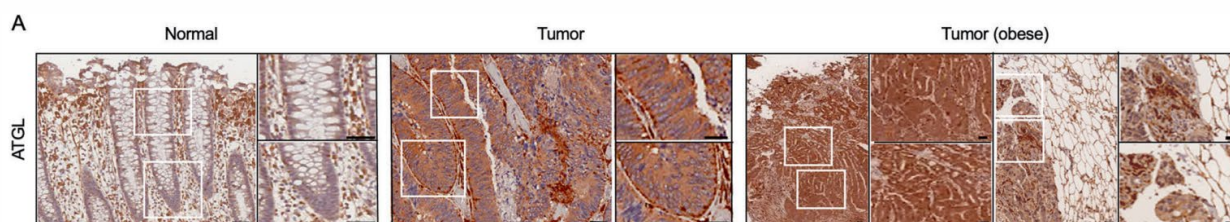


team identified genes involved in ATGL metabolic pathways that have not been studied in cancer progression.

These findings support the notion that ATGL may be involved in regenerative potential of these cells. The study provides a novel understanding of the metabolic and oncogenic processes that contribute to colon cancer cell proliferation.

The publication was complemented by an invitation from the editor of the *Oncogenesis* journal to Dr. Savkovic to provide a Blog about their findings for the Community of Nature Portfolio Cancer. This Blog naturally boosts the visibility of the scientific research. as Dr. Savkovic explained: “this Blog significantly increases the visibility of our findings, our Department, and TUSOM.” Readers may freely gain access to the manuscript, figures, supplementary data etc., to share knowledge and produce more findings supporting the publication.

Please find Dr. Savkovic’s blog [here](#) and make sure to show your support by clicking “like” and share with other individuals, organizations and institutional social media to multiply visibility.



ATGL level is increased in human colon cancer tissue and augmented by obesity

Publications with Statics

Publications Published or accepted in 2021

- 54 publications by 21 faculty members (15/19 of research faculty, 6/14 of clinical faculty)
- First/corresponding authors: 19 papers by 12 faculty (all research faculty).
- First/corresponding authored papers with highest impact factors, top three:
Yan, S. B. Khambu, X. Chen, Z. Dong, G. Guo, and X.-M. Yin. Hepatic autophagy deficiency remodels gut microbiota for adaptive protection via FGF15-FGFR4 signaling. Cellular and Molecular Gastroenterology and Hepatology. 11: 973-997,2021, IF: 9.225
Iftikhar R, Penrose HM, King AN, Samudre JS, Collins ME, Hartono AB, Lee SB, Lau F, Baddoo M, Flemington EF, Crawford SE, Savkovic SD. Elevated ATGL in colon cancer cells and cancer stem cells promotes metabolic and tumorigenic reprogramming reinforced by obesity. Oncogenesis. 2021 Nov 29;10(11):82. IF: 7.485
Ungerleider N, Bullard W, Kara M, Wang X, Roberts C, Renne R, Tibbetts S, Flemington EK. EBV miRNAs are potent effectors of tumor cell transcriptome remodeling in promoting immune escape. PLoS Pathog 2021 May 6;17(5):e1009217. IF: 6.823
- Most productive: first/corresponding authored (Total) this year: Yin: 3 (10), Flemington: 1 (9), Gragert: 1 (7), Lin: 2 (6), Dash: 3 (5)

A complete list of publications can be found at Department's website ([Publications | Medicine \(tulane.edu\)](#))



At a Glance

PhD graduate program:
 11 students in 6 laboratories
 Drs Lee and Gragert' labs:
 x 3 (each),
 Dr, Savkovic's lab: x 2

Molecular Medicine:
 9 new students

Research Faculty:
 19 out of 33
 16 full time
 research/education.
 3 research/clinic/admin
 2 instructors
 5 Assistant Professors
 6 Associate Professors
 6 full Professors

Faculty with research support
 as PI: 14 out of 19.
 Clinical faculty as co-PI: 2/14

Research themes:
 Cancer biology
 Viral transcription
 Pathogenesis of the bone and
 muscle, brain, colon, lung, and
 liver.

Current Awarded Projects for Department of Pathology and Laboratory Medicine Faculty

	Project	Sponsor	Annual Amount (D+I) in Million	
			Total	NIH
PI	14	10	-	-
Grants/ Project/ Contract	25	19	6.41	6.21
(June, 2021)	23	16	5.46	4.86)
	Total	NIH	All	NIH
Co-PI (salary support)	4	4	-	-
Grants/ Project/ Contract	6	5	0.08	0.08

Focus on Faculty



In this corner, Tulane faculty members share their experiences, interests and advice for residents and fellows.

1: When did you come to Tulane and what brought you here?

My journey to Tulane has been in 2 parts, first as a resident in 2004 which was cut short by hurricane Katrina. I returned in 2019 as faculty, drawn back by the wonderful academic environment and good people!

2: Where did you earn degrees and what are your current responsibilities at Tulane?

Undergraduate and medical degree at the American University of Beirut, followed by training at Tulane, Case Western Reserve, University of Pennsylvania and Indiana University

Currently at Tulane I am the Director of Surgical Pathology and Genitourinary Pathology

3: What inspired you to follow your chosen path of study, and what do you find makes it so interesting?

Pathology is very visual and inquisitive, it's like solving a puzzle.

4: What is your greatest accomplishment?

Balancing very fulfilling professional and personal lives.

5: What did you want to be when you were growing up?

For a while I wanted to be an architect, but that didn't last long. I always knew medicine was my calling.



Shams Halat, MD

Associate Professor
Director, GU Pathology Services,
Director, Surgical Pathology, and
Director, Lakeside Hospital
Laboratory
School of Medicine, Tulane

6: The one experience you will always remember?

Dr. Daroca stopping a grand round speaker to point out a cell that looked like Mickey Mouse. Demonstrates that you can always have fun in Pathology.

7: Beyond the Tulane campus, I like to ...?

Cook Lebanese food, travel and spend time with my 3 boys (4 counting my husband!)

8: Favorite book/movie (and why)?

Too many to count. Recently my favorite movie is "This is 40". Hit too close to home.

All-time favorite is Shawshank Redemption. The last scene of freedom is exhilarating

9: What advice would you give?

Whatever you do, pick something that you look forward to doing every day.

10: What is the most helpful advice you have received?

You are who you make yourself to be, no one can change that. Be humble and patient.

Event Highlight

Holiday Appreciation Event

December 16th: 12:00-3:00 PM.

This year the Department of Pathology and Laboratory Medicine hosted a Holiday Appreciation Event to celebrate our achievement and to express our appreciation to our faculty, staff and trainees. We had groups of faculty members, staff, fellows and residents gathering at the Dunlap Library. Many members from other Departments, Tulane Medical Center and University Medical Center also showed up and enjoyed the conversation with our faculty and staff.

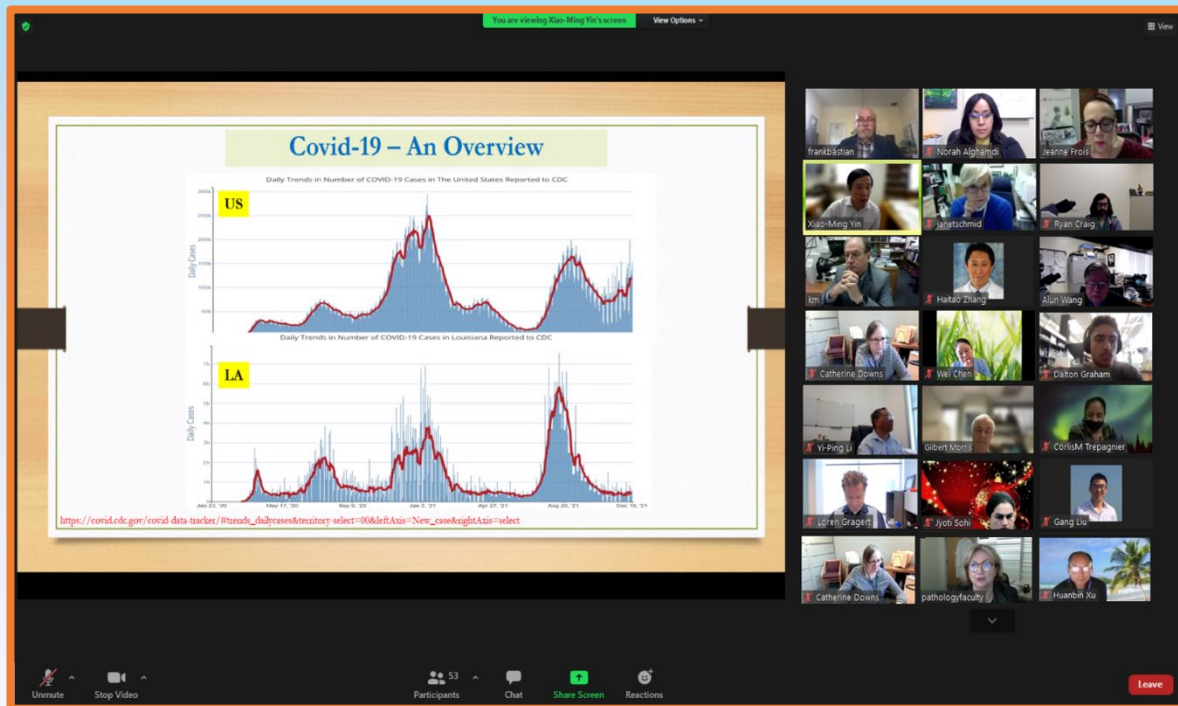
We trust everyone had a great time and celebrated our achievements through the year!

Who is in the picture: Can you recognize the fourth person from left?

Answer on page 13, Blast From The Past.



2020-2021 Pathology Department Annual Meeting



Adjusting to the COVID-19 pandemic and its presented challenges to the entire department, the 2020-2021 Pathology Department Annual Meeting was held virtually via Zoom Meeting, December 15, 2021.

In this meeting, Xiao-Ming Yin, M.D., Ph.D., Department Chair, discussed the adaption to COVID in the Academic Pathology and the impacts on the practice of Pathology Dr. Yin remarked: "It was challenging to change so many things in our daily lives amid the pandemic, but these challenges gave us an opportunity to interact with the new circumstances and come across different clinical settings which enrich our experience in problem-based learning."



In addition, Dr. Yin shared the success and growth of the Department in the past six months in many aspects including: education, new faculty, research, scientific publications and more. The meeting provided department members with an opportunity to network and keep up with the department's latest news.

Faculty and Staff Farewell and Retirement

Etyria Hayes, Billing Coordinator Medical and Coding Specialist, left in August 2021.



Chang Han, MD, PhD, Associate Professor, passed away in September 2021.



Natalie Rolf, MS., PA.(ASCP), Instructor, left in October 2021.



Gale Froeba, MPH, MT (ASCP) SC, Lab Director, is retiring in January 2022.



Thank you for your dedication and service to the Tulane community.

Event Highlight

Community Outreach



Yi-Ping Li, PhD, Wei Chen, MD, and Norah Alghamdi, PhD, at the 2021 Annual Faculty Mixer

Blast From The Past



Dr. Nina Dhurandhar

On November 3rd, 2021, the School of Medicine hosted a major faculty networking event: “2021 Annual Faculty Mixer” at the Jung Hotel’s Grand Hall. The networking was the main attraction and faculty from across campus met in an atmosphere of an afternoon social mixer to share perspectives and advice on academic success.

The mixer started with a word from the SoM Dean, Dr. Hamm, welcoming everyone and encouraging faculty to meet our mission of “Education, Research and Patient Care”.

This year’s event included the new faculty members introduction and warm-up activity and games.

Nina Dhurandhar, MD, is an Emeritus Professor of Pathology and Laboratory Medicine at Tulane Medical Center.

In admiration and respect to Dr. Dhurandhar’s work, an Endowed Fund Award was established with funds donated by her. The Nina Dhurandhar Award (since 2017) is granted to residents/fellows in recognition of their meritorious contributions in the field of Cytopathology.

Tulane Podcasts

The Office of University Communications and Marketing produces on making new episodes of Tulane’s official podcast, including interesting episodes highlighting politics and gendered socialization and Professor Walter Isaacson, former chairman of CNN and the editor of TIME magazine, chatting with Tulane President Michael A. Fitts. Different episodes address subjects like healthy diet and voices of New Orleans and more. Find more on tulane.it/on-good-authority

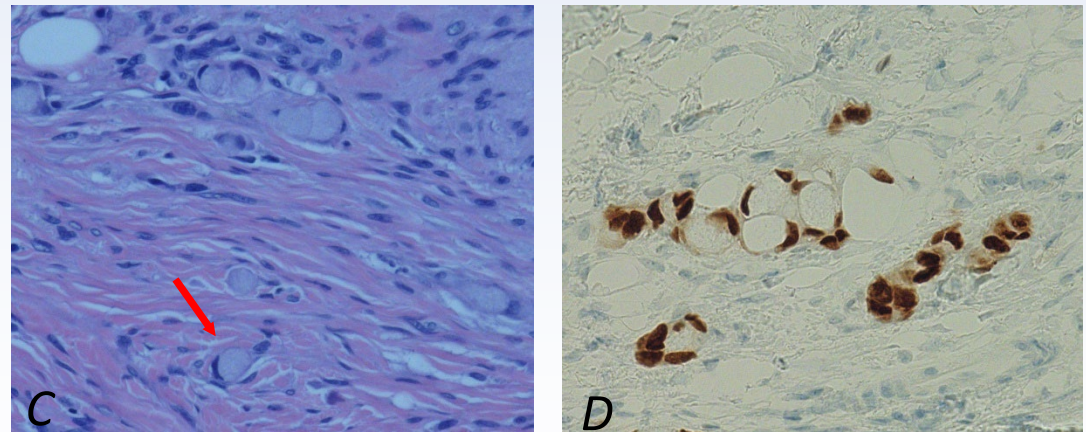
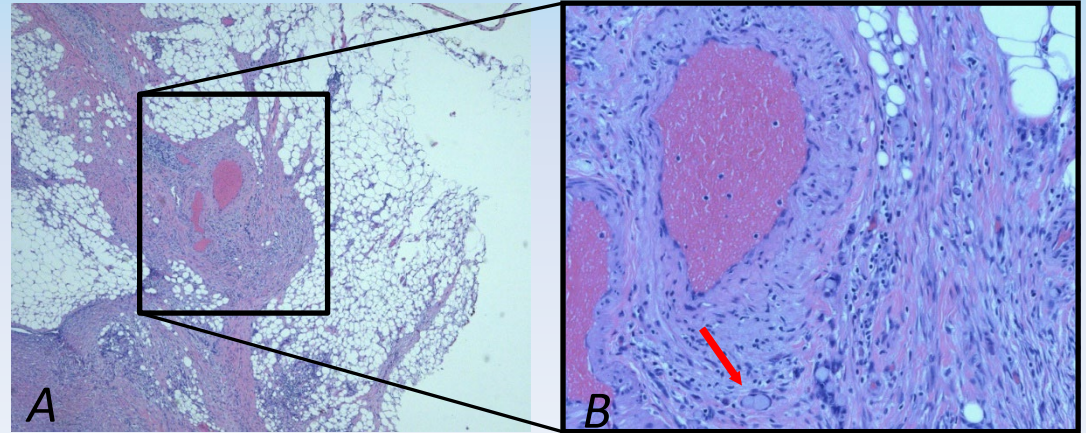
Case of the Month

CLINICAL HISTORY

Peritoneal Nodule Biopsy: 42 year-old male with history of abdominal pain secondary to small bowel obstruction. Biopsies from a mesenteric mass, omentum, and a peritoneal nodule were acquired at the time of surgery and sent for frozen section analysis.

MICROSCOPIC FINDINGS

- A) H&E image at 4x showing cellular infiltration of malignant cells into adipose tissue (fat).
 - B) H&E image at 10x showing single large malignant cells infiltrating tissue around a blood vessel.
 - C) H&E image at 40x showing malignant cells infiltrating into tissue with characteristic morphology.
 - D) CDX2 immunohistochemical stain at 40x highlighting malignant cells.
- The cells are also positive for CK20 but negative for TTF-1 and CK-7.



WHAT IS YOUR DIFFERENTIAL DIAGNOSIS? *(The answer can be found on page 16)*

- A) **Signet ring carcinoma of the GI tract with poor prognosis**
- B) **Signet ring carcinoma of the lung with favorable prognosis**
- C) **Signet ring carcinoma of the breast with poor prognosis**
- D) **Mucinous carcinoma of the colorectum with poor prognosis**
- E) **Mucinous carcinoma of the ovary with favorable prognosis**



CONGRATULATIONS, it's a boy!



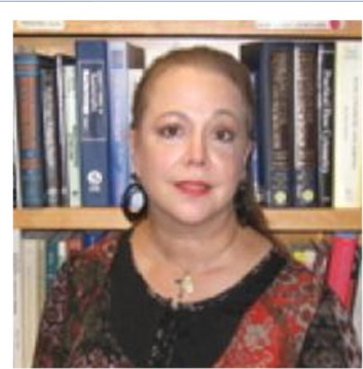
Dana Perez (MD, PGY III) and Zachary Davis welcomed their newborn, Dario Perez Davis. Congratulations Dana!



KUDOS FOR A COLLEAGUE

Having you on the team makes a huge difference, you're a great person to work with.

Jeanne M. Frois
Executive Secretary
Department of Pathology and Laboratory Medicine
School of Medicine
Tulane University



Case of the month answer: A) Signet ring carcinoma of the GI tract with poor prognosis

Upcoming Events

Pathology Grand Rounds, 12:00 PM

- 01/07/22: Peter Didier, PhD (Comparative Pathology)
- 01/14/22: Robert Wood, M.D
- 01/21/22: John Scott, M.D., Ph.D.
- 01/28/22: Dana Perez, M.D.(Resident)
- 02/04/22: Jia Zhou, Ph.D. (Physiology)
- 02/11/22: Garrett Vick, M.D. (Fellow)
- 02/18/22: Krzysztof Moroz, M.D
- 02/25/22: Younes Aljohmani, M.D. (Resident)

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