See you in the new year!

A very difficult year is coming to a close. As we look to the future, we must remember to remain vigilant about the ongoing pandemic, with hope that the new year will bring scientific and medical discoveries that will bring us back to normalcy. At the same time, we remember our dedication to social and healthcare equality and continue to advocate for what is right and fair. Whether you have a chance to relax this holiday season or are working harder than ever toward your research goals, we are proud of you and what Lerner and Cleveland Clinic have accomplished, and of the family spirit that our foundation has embodied through these tumultuous times.

In the final issue of 2020, we recognize Lerner alumna Dr. Monique Ogletree, fellow Dr. Joyce C. Bore, and graduate student Kristin Allan. We also introduce LGSA member Alan Chen and recap the recent LEADERS seminar on Graphics for Presentation. In addition, you can find information on the winners of the F. Merlin Bumpus Award, who we’d like to congratulate for their accomplishments. Be safe this holiday season, and we’ll see you next year!
Where did you obtain your PhD? I obtained my PhD at Cleveland State University through Cleveland Clinic Foundation and Cleveland State University’s joint program.

When did you work in Lerner and in which lab? What positions did you hold? From 1995-2003, I worked in the Department of Cardiovascular Medicine and the Department of Anesthesiology Research. I was a graduate student (1995-2001) and a postdoctoral research fellow (2001-2003) under Dr. Christine Moravec.

What did you work on at Learner? As a graduate student, I studied inotropic mechanisms in human atrial and ventricular muscles. Then as a postdoc, I studied the effect of anesthetics on contractility in the failing and non-failing human heart as well as the recovery of beta adrenergic responsiveness and calcium cycling following mechanical unloading in the failing human heart.

What successes did you have at Learner? I received an NIH-NRSA Minority Individual Predoctoral Fellowship (1998-2001) and an American Heart Association (Ohio Valley Affiliate) Postdoctoral Fellowship (2001-2003). I was awarded an NIDDK Minority Travel Award (Experimental Biology, 1997) and the Lower Award for Clinical Research, Honorable Mention (Cleveland Clinic Foundation, 2001). From 1999 to 2010, I published 3 first-author papers and 3 co-author papers. I was invited to give talks in Department of Anesthesiology Research weekly seminar series (Cleveland Clinic Foundation, 1998), International Society of Heart & Lung Transplantation (San Francisco, CA, 1999), International Society of Heart & Lung Transplantation (Vancouver, Canada, 2001), Heart Failure Research Seminar Series (Cleveland Clinic Foundation, 2001), American Heart Association conference (2001), International Society of Heart & Lung Transplantation (Washington DC, 2002), and Department of Anesthesiology weekly seminar series (Houston, Texas, 2003).

What is your current position title and where are you now? Currently, I work as an Instructional Associate Professor of Biology and Biochemistry at the University of Houston, Main Campus. I also hold the titles of Faculty Advisor, Faculty Director of Undergraduate Programs, and Joint Admissions Medical Program Faculty Director.

What does your role in your current position entail and what is your favorite part? I teach several courses including Human Biology, Anatomy & Physiology 2 for undergraduate non-majors, Human Physiology for undergraduate majors, Integrated Anatomy & Physiology for graduate students, and Survey for Health Professions as an interest course. I also advise students and initiate programming to help at-risk students and those that want to go to pre-professional school. My favorite part is helping students reach their full potential.

What about your time at the Lerner do you think prepared you for this position? I had a wonderful PI, Dr. Christine Moravec, a mentor that supported my career interests. She allowed me to get involved in innovative and competitive research, while also allowing me to experience teaching and partake in different community outreach initiatives. Everything I did in her lab prepared me for the future.

Is there something you particularly miss from your time at Lerner? I miss the teamwork and camaraderie in the Department of Cardiovascular Medicine between both the clinical departments and the basic science research labs. There was deliberate partnership which is unique to Cleveland Clinic.

In one sentence, what advice would you give current Lerner postdocs? Make sure you select a PI that still enjoys the science and genuinely cares about the success of his/her trainees. Work hard and do not accept less than your best each day you show up in the lab.
Meet your Fellow

Joyce C. Bore, PhD

“"I feel privileged to be part of the research work done at Cleveland Clinic with its high standards, and training here will help boost my career."” -Dr. Joyce C. Bore

Dr. Joyce C. Bore grew up in Nakuru, Kenya. She attended Egerton University in Kenya for her bachelor’s degree, then got her master’s in engineering and PhD in biomedical engineering at the University of Electronic, Science and Technology of China in June 2019. Her doctoral research explored new mathematical models based on alternating direction method of multipliers and deep-learning for sparse spatiotemporal reconstruction of neuroimaging data (EEG, fMRI, MEG, etc.), frequency and brain network analysis.

While in grad school, Dr. Bore became interested in signal processing methods and how they can be applied in neuroimaging data for a more precise prediction of neurological diseases in a timely fashion so that effective treatment can be rendered. Thus, she decided to do her postdoctoral studies at Cleveland Clinic in order to dedicate her research efforts to helping patients. Moreover, Dr. Bore says she feels privileged to be part of the research work done at Cleveland Clinic with its high standards, and that training here will help boost her career.

Since July 2019, Dr. Bore has been working in Dr. Kenneth Baker’s lab in the Department of Neurosciences. Her research work combines behavior assessments of therapeutic efficacy with both invasive (deep brain stimulation) and non-invasive neurostimulation methods to perform a systems-based approach to understand neurophysiological changes across sensorimotor brain networks in both human and animal models of Parkinson’s disease. In particular, she is investigating the neural oscillatory changes in Parkinsonism and the application of new methods of treatment, specifically “Coordinated Reset Deep Brain Stimulation” which is hypothesized to have long-lasting therapeutic benefits derived from targeted disruption of abnormal neuronal synchrony.

Dr. Bore has recently published a first-author publication titled, “Prediction of mild Parkinsonism revealed by neural oscillatory changes and machine learning” in the Journal of Neurophysiology. She has also presented a poster, “Unraveling neural oscillatory changes due to STN Coordinated Reset Deep Brain Stimulation in the MPTP Non-Human Primate Model of Parkinsonism,” at the 2020 International Parkinson and Movement Disorder Society conference held virtually. She is a co-investigator on the “Cognitive Brain Network Changes in Parkinson’s Disease” project that has received the Cleveland Clinic Research Program Committees grant award 2020-2021.

In her free time, Dr. Bore enjoys cooking, practicing martial arts (taekwondo), traveling, watching movies, and spending quality time with her family and friends.
Kristin is originally from Olmsted Falls, just outside of Cleveland, and she has lived in the area her whole life. She went to The College of Wooster in Wooster, Ohio, where she majored in biochemistry and molecular biology for her undergraduate degree. Her minor was in studio art.

When deciding on a graduate program, Kristin was attracted to the Molecular Medicine PhD program for its ability to combine her love of science with clinical applications. She has been a member of Dr. Alex Yuan’s lab in Ophthalmic Research at Cole Eye Institute for four years. Kristin’s graduate research focuses on mechanisms of retinal regeneration using zebrafish as a model, as they have the inherent ability to regenerate their retinas. The goal of her main project is to understand how activated leukocyte cell adhesion molecule A contributes to the migration of newly generated progenitor cells. This process is essential to regeneration of the retina.

Kristin is currently preparing her second first-author manuscript for submission and her thesis defense is scheduled for December 10th at 10:00 AM via Zoom. The title of her dissertation is, “Exploring the Roles of Müller Glia and Activated Leukocyte Cell Adhesion Molecule A in Zebrafish Retinal Regeneration.”

Outside of lab, Kristin spends much of her free time working on her house, which she and her fiancé are renovating from top to bottom. She also enjoys reading, baking, and running.

“*I was looking for a graduate program that could combine my love of science with clinical applications, and the Molecular Medicine program was a perfect fit.*”  
- Kristin Allan
Meet your LPDA & LGSA Leaders

Alan Chen | General Member

Alan completed his undergraduate degree at Case Western Reserve University, double majoring in polymer engineering and chemical biology. He started his research experience as an undergraduate in Dr. Vijay Krishna’s research group in the Department of Biomedical Engineering at Lerner. There, he was able to contribute to a multitude of projects from alternative cancer treatment to sunscreens to antimicrobial coatings. Alan’s research experiences as an undergrad compelled him to pursue a PhD in biomedical engineering at Case Western in 2020.

Alan’s research in Dr. Krishna’s lab focuses on designing and characterizing enzyme-mimicking nanoparticles for use in the treatment of Alzheimer’s Disease. He is currently in the process of preparing his second first-author publication. Alan’s first publication from Dr. Krishna’s lab focuses on the comparison between the photothermal property of polyhydroxy fullerene and other nanoparticles.

As an LGSA member, one of the most important values that Alan demonstrates is positivity. No matter the situation, he always tries to maintain a positive environment for others. During the pandemic, Alan has found that his positivity has become especially important to help motivate others. Having started his graduate studies during a pandemic, one of his biggest goals during his time in LGSA is to hold and participate in many networking activities so that graduate students can all meet one another and build a stronger community.

Outside of research, Alan enjoys exploring new places and trying new activities. He also enjoys designing things in SolidWorks and 3D printing them.

“The experiences that I have accumulated here at Lerner are invaluable as I have benefited both academically and professionally.”

-Alan Chen
Upcoming Events

LEADERS Seminar Series

LEADERS 2020
Series for Lerner Research Institute Trainees
LERNER EXPERIENCE IN ADVANCED DEVELOPMENT OF EDUCATION AND RESEARCH SKILLS

Writing Papers

WHO: Bela Anand-Apte, MBBS, PhD, MBA
Ophthalmic Research, LRI
Cornelia Bergmann, PhD
Neurosciences, LRI

WHEN: December 14, 2020
4:00 - 5:00 PM

WHERE: Virtual (Zoom)
https://cwrug.zoom.us/j/92414450253?pwd=cTM3ZU5abUt1TIRVMzQ3OFZ4SVB0UT09

PASSWORD: LEADERS
Upcoming Events

**Hope for the Holidays**

**Adopt-a-Family Program**
This holiday season is going to be hard for many families. Help brighten another family’s holiday season through our Adopt-a-Family program.

1. Interested donors will be matched with a family in need by Outreach staff and given basic information about them.

2. Donors will purchase e-gift cards to suggested retailers & email them to outreach staff. Donors will be notified when the family receives their gift.

Please consider what size family you would like to “adopt”. Our minimum suggested guideline is $50 per child and $50 for the family.

Contact DCFSOutreach@jfs.ohio.gov if you are interested in helping a local family.

**Gift Donation Program**
Hope for the Holidays is our annual gift program for youth in foster care in Cuyahoga County. Currently, there are over 2,800 youth in foster care.

1. Donors will purchase a gift or a giftcard from the Target Wishlist & gifts will be shipped to the agency.

2. Staff will package, wrap and give gifts to foster families via a Drive-Thru pick-up event

Please visit the Target gift wishlist online to purchase gifts: https://tinyurl.com/hfth2020
Recent Events

Did you miss the virtual LEADERS seminar on Graphics for Presentation presented by Dr. Paul Fox? Some key points of discussion were 1) filling the frame, 2) using appropriate fonts and sizes, 3) taking advantage of effective labeling, 4) avoiding “chart junk” and “dequantifying” data, and 5) considering colors and special effects. Here is the recap!

Some important considerations in framing data for presentation are the original proportions of figure panels, the number of figure panels per slide, and the distance of figures to the edge of the slide. Figures should not be stretched in a single direction such that the font looks irregular. Instead, the proportions should be maintained by expanding a figure by clicking and dragging to expand from the corner. It is also important not to overfill a slide with too many data panels. Dr. Fox said, “What works in print may not work for presentations and vice versa.”

In order to make clear and easy-to-read slides, Dr. Fox discussed the use of Helvetica and Arial fonts (or other sans-serif fonts) for words, short phrases, and data and serif fonts, such as Times New Roman, for sentences and paragraphs. For sequence alignment data, using monospaced fonts (e.g., Courier) is imperative. The use of all caps should be avoided except for titles and short labels. For drawing attention to specific words or phrases, preferentially use italics instead of underlining. When labeling knockouts rather than using -/- (En dashes), Dr. Fox recommends –/– (Em dashes). In terms of the number of lines of text on a slide, less than 10-12 is ideal. Lastly, no more than 3 different fonts should be used on a single slide.

To label effectively, direct labels should be used. Some examples that were discussed included labeling gel/blot/autoradiogram images and lines on a line graph. Images of gels, blots, and autoradiograms with various lanes should be labeled with descriptors (e.g., rows of +/- for different genotypes/treatments for a complex experiment or “Genotype Treatment” for simple experiment) rather than numbering the lanes and then describing the lanes in a figure legend.

When making figures, distracting and uninformative features should be removed. Some examples include using too many tick marks on graph axes and/or too much highlighting. Another important point is to use reasonably sized highlighting arrows or circles as well as bullet points. The goal is to use these features to emphasize the data and not distract from it. “Dequantifying” data happens when the wrong type of graph is used, data is presented on the wrong scale, trend curves are improperly fitted, and the resolution of images is poor quality. For time course data, line graphs are preferred over bar charts. Dr. Fox pointed out that quadratic curve fitting does not make sense in biology. When deciding the resolution of images, the better the resolution the larger the file size will be; however, the images need to be well-resolved enough to be clear. Usually, a middle ground of 150 dots per inch (dpi) is acceptable.

Lastly, when making presentations it is important to consider whether using colors or grayscale would work best. In a similar vein, the background color should be considered as well. For example, a black slide background might work better than white when presenting immunofluorescent images. Special effects should be limited unless they are used for biological reasons and if they must be used then it is best to use pan or zoom effects.
Recent Events

2020 F. Merlin Bumpus Junior Investigator Awards.

-Kelsey Bohn

November 2nd marked the 40th Annual Cleveland Clinic Research Day. It looked a little different this year, but we were able to hear wonderful talks by Connie Bergmann, PhD, James Leverenz, MD, and keynote speaker, Beth Stevens, PhD. Every year at Research Day, the winners of the F. Merlin Bumpus Junior Investigator Awards are announced. This award is named after F. Merlin Bumpus, PhD, who served as Chair of Research from 1966-1985. It was created to highlight excellence in research by graduate students and postdoctoral fellows in both basic and clinical research. Below, we feature the basic science finalists, all of whom are trainees in Lerner. Congratulations to all of the winners and finalists!

First Place Winner

**Weiqiang (Javier) Chen, PhD**

PI: Jae Jung, PhD  
**Department:** Cancer Biology  
**Presentation Title:** Zika Virus Calcifications: Pathogenesis and Mechanism  
**Summary:** The association of ZIKV-induced brain calcification and neurological disorders has impaired brain development in thousands of infected infants. Our study revealed that Zika virus Non-Structural protein 3 (NS3) as the main cause of brain calcifications through enzymatic processing of Bone Morphogenetic Proteins (BMPs). Apart from identifying a novel role of Zika NS3 protein in processing host BMPs, our study also highlighted the potential of targeting NS3 to ameliorate Zika virus-induced brain defects. This work has been accepted for publication in *Nature Microbiology.*

Second Place Winner

**Samreen Jatana, PhD**

PI: Christine McDonald, PhD  
**Department:** Inflammation & Immunity  
**Presentation Title:** Skin-Gut Crosstalk: First Experimental Murine Model of Pyoderma Gangrenosum and Inflammatory Bowel Disease  
**Summary:** The focus of this project is to understand the mechanisms of pathogenesis that lead to the development of inflammatory bowel disease (IBD) in individuals with pyoderma gangrenosum (PG), a rare skin disease. This study will establish and validate the first preclinical model for IBD with the extraintestinal manifestation PG. Using this model, we will be able to probe mechanistically observations from human samples collected from individuals with these diseases, with the ultimate goal of discovering new predictive biomarkers and therapeutic targets to improve the lives of individuals living with IBD and PG.

Finalists

**Nicholas Sarn**

PI: Charis Eng, MD, PhD  
**Department:** Genomic Medicine Institute  
**Presentation Title:** Cytoplasmic-predominant Pten increases microglia activation and synaptic pruning in an autism-like murine model  
**Published** [here.](#)

**Dhirodatta Senapati, PhD**

PI: Hannelore Heemers, PhD  
**Department:** Cancer Biology  
**Presentation Title:** Decreased NKX2-5 expression during prostate carcinogenesis induces aggressive cancer features and activates TEAD signaling.

**Abhilash Suresh**

PI: Jacob Scott, MD, DPhil  
**Department:** THOR  
**Presentation Title:** The Role of Long Non-Coding RNA in the Evolution of Resistance to Targeted Therapy in ALK Non-Small Cell Lung Carcinoma
Andrew Smith, MD, a vascular surgery resident (PGY4), is the first graduate of PRISM (Physician Researchers Innovating in Science and Medicine), a novel physician-scientist training program. Lerner Research Institute, in collaboration with Cleveland Clinic Lerner College of Medicine and Case Western Reserve University, created the PRISM program in 2017, and Dr. Smith was the first student to enroll.

The program allows residents and fellows in GME-accredited medical training programs at Cleveland Clinic to pursue a PhD in Molecular Medicine. Participants conduct research in a basic or translational research laboratory for two years. To earn their PhD, the students must also pass a qualifying exam and publish at least one first-author paper.

Dr. Smith completed his PhD research in the laboratory of Linda Graham, MD, a vascular surgeon and researcher in the Department of Biomedical Engineering in Lerner. His thesis was titled “The Effects of Canonical Transient Receptor Potential Channel Subtype-6 on Phenotypic Modulation of Vascular Smooth Muscle Cells and Arterial Healing Following Vascular Intervention.”

“I enrolled in the PRISM program because I am interested in translational/basic science and wanted to receive dedicated training in hypothesis-driven research,” Dr. Smith says. “The coursework and thesis requirements of the PRISM track provided a level of rigor, depth and structure that enriched my elective time in the lab.”

His work in the lab and thesis meshed perfectly with Dr. Smith’s career goals. “Our work demonstrated that the protein TRPC6 modulates smooth muscle cell phenotype and proliferation after arterial injury following vascular procedures. My goal is ultimately to run a basic and translational science lab that contributes to the development of novel mechanism-based therapies to improve outcomes of vascular surgery.”

Six additional residents/fellows are currently enrolled in the PRISM program. For more information about this program, contact Christine Moravec, PhD, Director of Lerner’s Research Education and Training Center.
Visiting Assistant Professor of Biochemistry | The College of Wooster
The Program in Biochemistry and Molecular Biology at The College of Wooster seeks applicants for a one-year visiting professor position beginning August of 2021. In addition to teaching introductory courses in molecular and cellular biology, and upper level courses and labs in biochemistry, successful applicants will advise senior undergraduate majors participating in the college’s nationally recognized Senior Independent Study thesis research program. Applicants should hold a Ph.D. by the time of appointment and be prepared to discuss their experience working with diverse student populations. To apply, please prepare the following materials: a letter of application, CV, unofficial graduate transcripts, a one-page teaching philosophy statement, a three-page research description of potential undergraduate thesis projects, a diversity statement, and three reference letters. Application review will begin December 4th, 2020. For more information, please click here.

Scientific Editor | University at Buffalo
The Office of Research Advancement seeks candidates for a senior scientific editor to support the university’s research and scholarly community in the pursuit of external grant and research funding. You will work alongside UB faculty members to create highly competitive proposals to support promising research and advance university initiatives. The ability to perform scientific literature reviews, and thus a scientific background, is preferred. You will also play a vital role in the UB research community by conducting seminars and workshops about scientific writing and grantsmanship. Ideal candidates will have experience with common scientific funding agencies, such as the NIH, NSF, Department of Defense, Department of Energy and private foundations. For more information, please click here.

Assistant Professor (Tenure Track) -Inflammation in Human Diseases | Rosalind Franklin University of Medicine & Science
The Center for Cancer Cell Biology, Immunology and Infection of the Chicago Medical School, Rosalind Franklin University of Medicine & Science, invites applications for a full-time, tenure-track Assistant Professor position. We are seeking a candidate who uses innovative techniques such as singe-cell analysis and high throughput epigenetic, metabolic, transcriptomic and proteomic profiling of cells to investigate mechanisms of inflammation, particularly in the context of infectious diseases, immune response and cancer. Ample opportunity exists for collaboration with the scientists at the Center with research strengths in the areas of virology, pathogenesis, innate immune cell biology, T cell immunology, cell development and signaling, and cancer. For more information, please click here.

Medical Science Liaison | Jazz Pharmaceuticals, Cleveland, OH
Jazz Pharmaceuticals seeks a Medical Science Liaison with expertise in solid tumor oncology to help improve patients’ lives by identifying, developing, and commercializing meaningful products that that address unmet medical needs. You will be responsible for engaging healthcare providers in meaningful exchanges of information, presenting scientific and clinical data for Jazz’s marketed products, and partner with key opinion leaders in the field to advance patients’ care options. Applicants should hold a PharmD, MD, or PhD and have expertise in solid tumor oncology. For more information, please click here.
Congratulations to Megan Zangara from the McDonald Lab in the Department of Inflammation and Immunity!
Megan recently published a manuscript titled “Impact of Diet on Inflammatory Bowel Disease Symptoms: An Adolescent Viewpoint” in Crohn’s and Colitis 360. Click here.

Congratulations to Stetson Thacker from the Eng Lab in the Genomic Medicine Institute!
Stetson received a Reviewers’ Choice (top 10%) abstract at the American Society of Human Genetics 2020 (remote conference). The abstract/poster was titled “Constitutional Pten Mutation Alters Alternative Splicing Patterns in the Murine Brain, Contributing to an Autism-like Phenotype.”

Congratulations to Alyson Wolk from the Anand-Apte Lab in the Department of Ophthalmic Research!
Alyson successfully defended her dissertation titled “The Role of the Retinal Pigment Epithelium in Sorsby Fundus Dystrophy.” The work associated with her dissertation has been published in Cells (click here) and Redox Biology (click here).

Congratulations to Metis Hasipek, PhD from the Jha Lab in the Department of Translational Hematology and Oncology Research!
Dr. Hasipek won the American Society of Hematology (ASH) Abstract Achievement Award at the 62nd ASH Annual Meeting and Exposition. The abstract title was “A Novel Therapeutic Strategy for Preferential Elimination of Multiple Myeloma Cells by Targeting Protein Disulfide Isomerase.”

We love celebrating trainee accomplishments! To submit your own news or to recognize someone else, email lri-postdoc-assoc@ccf.org
Wellness Resources

Tips for Dealing with Pandemic Fatigue

Author: Caregiver Communications
Original Article: click here.

As we enter a new wave of the coronavirus epidemic, are you asking yourself how you will handle the winter and holiday months ahead?

If you are stressed and feeling fatigue, remember that you are not alone.

Important self-care actions:

- Check in regularly with neighbors, friends, and family
- Evaluate and change your perspective
- Stop and breathe
- Take a different approach to worrying

Click the link to the original article above for more details.

Well-Being, Self-Care and Emotional Support for Caregivers

Please note: A connection to the Cleveland Clinic network is required to access many of these resources.

For a more detailed and complete list of resources, please visit this link.

Caregiver Experience Wellness Portal: disconnect, unwind or say thank you virtually

Caring for Caregivers: confidential services that preserve, restore and enhance wellbeing of our caregivers. Available at 1-800-989-8820 (including new Boost telephone appointment).

Cleveland Clinic Office of Caregiver Experience on Facebook and Instagram.

Connect Today/Learner Connect: resiliency resources to help you manage complex, changing times (virtual meetings, change and stress management, and communication)

Occupational Health: If you have further questions about COVID-19 please contact the COVID-19 Caregiver Hotline at 216-445-8246.

OneClick to Well-Being: well-being information and resources for staff

Spiritual Care and Healing Services: information for the religious and spiritual needs of CCF patients, their families and loved ones, and Cleveland Clinic caregivers. (216) 444-2518

CCPD Victim Advocacy: resource to help educate and support the CCF community on DV. Email the committee at: dvcommittee@ccf.org
Behind the Scenes

This newsletter is written by the communications teams of the LPDA Leadership Council, LGSA Leadership Team and fellow trainees. We welcome your questions and suggestions!

Email lri-postdoc-assoc@ccf.org to connect with us.

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