Cleveland Clinic
Lerner Research Institute

May 2024

Lerner Trainee Newsletter

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This newsletter is written by members of the Lerner Trainee Association Communications Committee. We welcome your questions and suggestions!

Email LRITraineeAssoc@ccf.org *connect with us.*

Greetings! As May comes to an end, Cleveland has been transformed into a green landscape with many outdoor activities enjoyed by both humans and animals. By chance, you might find bunnies running around on the LRI lawn!

There are many exciting upcoming events in June! We also introduce the Discovery Accelerator's recently launched series of self-paced courses that familiarize caregivers with IBM quantum computing and its applications in healthcare.

In this issue, we feature postdoctoral fellow Dr. Soojin Park and MD-PhD student Vanessa Salazar, along with LRI alum Dr. Dana Schneeberger. In this issue's "Meet our LTA member" section, we feature Dr. Lavanya Jain, who has led an effort to revitalize the monthly trainee newsletter series over the past two years.

Our Recent Accomplishments section highlights recent awards, publications, talks, and career milestones achieved by our trainees. The Opportunities section summarizes all the funding and grant opportunities with upcoming deadlines.

Our monthly CCF Innovations feature continues to help us navigate the world of invention disclosure and patents. Check out our previous issues for their previous infographics that you might have missed.

Lastly, trainees can find wellness resources that provide Yoga, Meditation, Fitness, and Culinary Medicine sessions.

If you would like to contribute to the newsletter, please reach out to us at LRITraineeAssoc@ccf.org.

Join our LinkedIn Group

The Lerner Postdoc and Grad Student Alumni Network on LinkedIn is a group of current and former postdoctoral fellows, research scholars and graduate students at Cleveland Clinic Lerner Research Institute. We share opportunities for career development, networking and highlighting our scientific achievements. We also post reminders about upcoming events, so be sure to turn on notifications! **Request to join here.**

Upcoming Events

Cleveland Clinic
Lerner Research Institute

2024 Summer Student Seminar Series

Crafted and created for Lerner Research Institute Summer Students

Brought to you by Research Education & Training Center (RETC)

LRI Overview and PhD Programs
Jason Ross, PhD
Student Panel– Current Graduate/Medical
June 6th | 1-2 PM | NC1-202
Lunch will be provided

Graduate & Medical School Admissions
Bela Anand-Apte, MBBS, PhD, MBA
& Christine Warren, MD, MS, FAAD
July 25th | 1-2 PM | NC1-202

Abstract, Poster, & 3- Minute Research Pitch
Akhil Mohan, PhD & Sepideh Khazaie, MD
June 20th | 1-2 PM | NC1-202

Exploring Technical Research Positions
Tammy Sadler, MS
August 15th | 1-2 PM | NC1-202

IBM Quantum Computing & Quantum Walk
Allison B Botros, MBA & Brandon Musarra, MBA
July 11th | 2:30-3:30 PM | NE1-205

All seminars will be held in-person and light refreshments served.

Summer Student Poster Day August 1, 2024
2:30 – 4:30pm, NC1-202 & NE1-205

Showcase your summer research and win prizes!
Curious- Reach us at retc@ccf.org
Interested- Discuss with your PI/ Mentor today!

Scan the QR code to register!

Upcoming Events

Lerner Trainee Association
Mentorship and Advocacy Committee

Welcomes

Jennifer McClellan Johnson

MBA, MSSA, LISW-S
Caring for Caregivers Training Specialist
Caring for Caregivers Program

To enlighten us about

Self-Advocacy in Research: A Delicate Balance of Speaking Up for Yourself

Friday, June 7, 2024
1:30 - 2:30 PM
Lerner Research Institute
NC1-202

Pizza and soft drinks available
Grab them 15 mins earlier

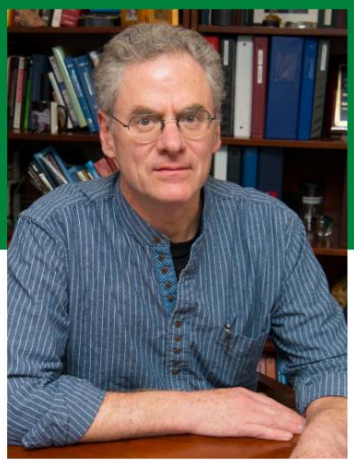
Upcoming Events

Cleveland Clinic
Lerner Research Institute

Hosted by the Neurological & Vision Impact Area

24th Annual
Lerner Lecture

Thursday, July 11, 2024
4:00 - 5:00pm
Bunts Auditorium



"Genetics of and Genetic Therapies for Inherited Retinal Degenerations"

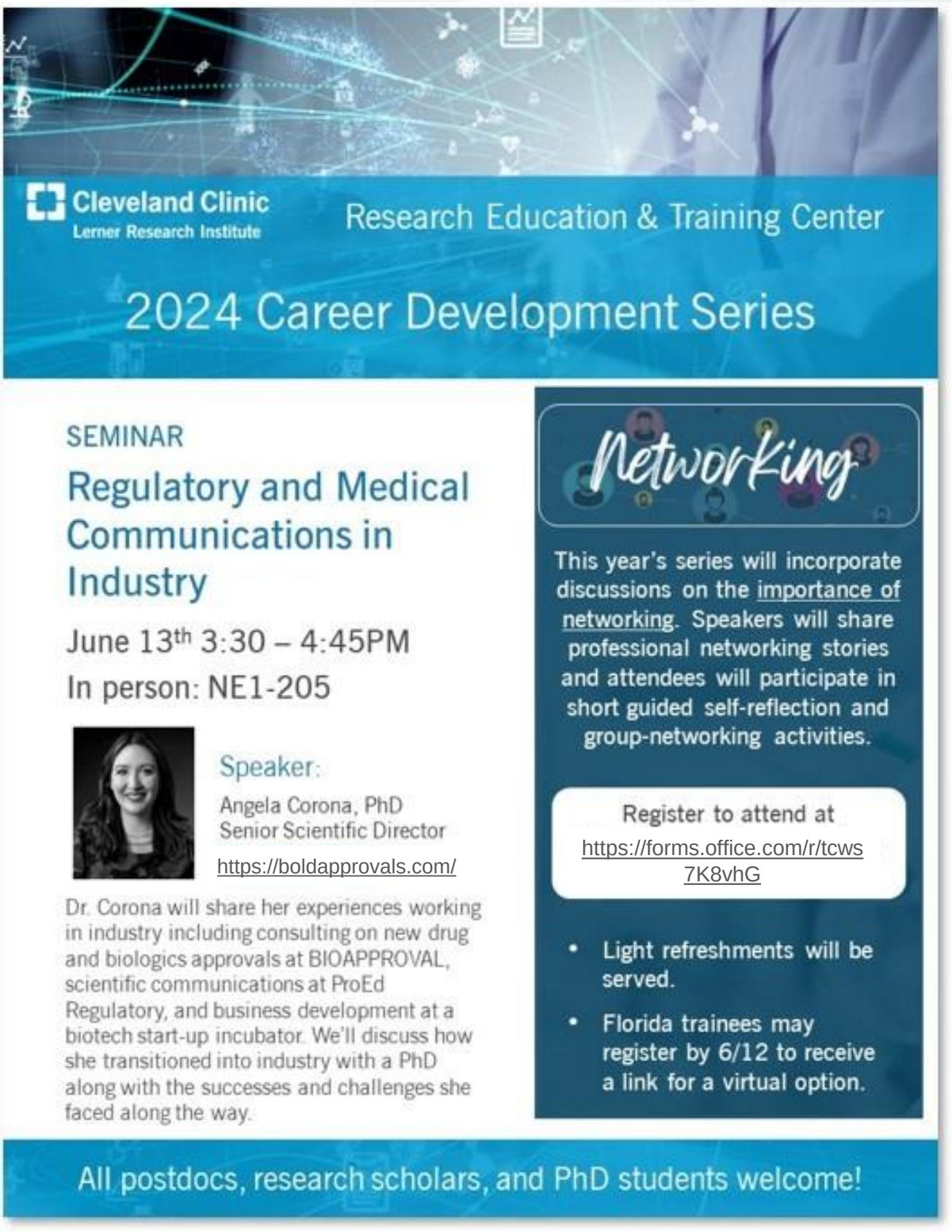
Eric Pierce, MD, PhD

Professor of Ophthalmology, Harvard Medical School
Director, Ocular Genomics Institute, Mass Eye and Ear

Dr. Eric Pierce is the Chatlos Professor of Ophthalmology at Harvard Medical School and the founding Director of the Ocular Genomics Institute (OGI) at Mass Eye and Ear. Dr. Pierce's research focuses on identifying genetic causes of inherited retinal degenerations (IRDs) and developing genetically informed therapies. His work has led to the discovery of multiple IRD disease genes and has supported clinical trials for genetic therapies. Dr. Pierce has been recognized with awards such as the Alcon Research Award and the Proctor Medal from ARVO, and he has served in various leadership roles, including chairing the Scientific Advisory Board for the Foundation Fighting Blindness.

Reception in Bunts Auditorium lobby immediately following.
All caregivers are encouraged to join in-person.
Questions? Contact Courtney Koch (kochc2@ccf.org)

Upcoming Events



Upcoming Events

Call for Abstracts Now Open!

Cleveland Clinic has a long history of pioneering research to improve the lives of patients. **Research Day** celebrates this tradition with caregivers across the enterprise. Clinical and basic investigators are invited to submit abstracts to be considered for awards and Research Day poster sessions.

Submit Your Abstract

Submit your abstracts in InfoReady by June 14. For more information on abstract submissions, presentations and awards, please visit the **Research Day intranet page**.

Clinical and basic investigators are eligible for awards with monetary prizes!

Junior investigators are eligible for the F. Merlin Bumpus Junior Investigator Award. All investigators are eligible for LRI Impact Area awards.

Questions? Email ResearchDay@ccf.org

Upcoming Events

VELOSANO

Cleveland Clinic

Team LRI VeloSano Fundraiser

Join us for a VeloSano fundraiser at Boss Dog Brewing! A portion of all drinks will be donated directly to team LRI.

June 19, 2024
5:30 PM - 7:30 PM
Boss Dog Brewing Company

VeloSano: "Swift Cure"

Latin for "swift cure", VeloSano connects the cancer community with Cleveland Clinic's expanding global impact in research, innovation and care. This unique partnership ensures an accelerated path to finding cures by making good on our promise – that one hundred percent of every dollar raised for VeloSano initiatives will support transformative, lifesaving cancer research happening at Cleveland Clinic today, in order to impact the lives of millions of people around the world, tomorrow.

What began as a weekend-long bike ride in Cleveland has become the link that connects philanthropy to research, research to patients, and patients to cures. Gifts to date have resulted in innovative treatment, therapies and – perhaps most importantly – comfort to patients across a wide range of cancer specialties. What we learn through research in one area adds translational knowledge to the overall field of cancer research and ultimately puts us one step closer to a cure.

Today, more than a decade after its founding, VeloSano remains committed to realizing the potential of individuals and communities with a single like-minded passion: ending cancer. Together, we are VeloSano. Together, to cure cancer.

Upcoming Events

Cleveland Clinic
Lerner Research Institute

Hosted by the Cancer Impact Area

Distinguished Cancer Lectureship

Wednesday, July 31, 2024
1:00 - 2:00pm
Bunts Auditorium | Microsoft Teams

"The Biology Behind PD1 Blockade"

Arlene Sharpe, MD, PhD

Kolokotrones University Professor, Harvard University
Chair, Department of Immunology, Harvard Medical School

Dr. Sharpe is a leader in T cell costimulation research. Her work focuses on understanding and manipulating T cell pathways for cancer immunotherapy and autoimmune disease treatments. Dr. Sharpe has authored over 400 papers and received numerous awards, including the William B. Coley Award, the Warren Alpert Foundation Prize, and recognition as a Highly Cited Researcher (top 1%) by Thomas Reuters. She is a member of several prestigious organizations such as the National Academy of Sciences and National Academy of Medicine.

All caregivers are encouraged to join in-person.

Recent Events

The Discovery Accelerator recently launched self-paced courses and seminars available to all caregivers on MyLearning.

IBM Quantum Learning Journey

This comprehensive program consists of five educational pathways. Each course guides learners toward a deeper understanding of quantum computing and its potential applications within healthcare and life sciences.

Pathways include:

- Welcome to Quantum
- A Deeper Understanding
- Understanding Quantum Computation
- Intermediate Quantum and Qiskit
- Advanced Use Cases

IBM Improving Healthcare Program

This program's modules provide a brief overview of the role of data science, cloud computing and artificial intelligence in healthcare and outlines future opportunities. Each module is approximately two hours long.

Courses include:

- The Role of Data Analytics and Data Science
- The Role of Artificial Intelligence
- The Role of Cloud Computing

Discovery Accelerator Technical Seminar Series with IBM

The Discovery Accelerator Technical Seminar Series provides educational content for caregivers who want to expand their work using new technologies. You can view all the recordings on MyLearning.

Past seminar topics included:

- Finding the Way Towards Quantum Utility in Healthcare and Life Sciences
- AI Tools for Scientific Discovery
- Generative AI for Scientific Discovery
- Fueling the Digital Lab Revolution with Foundation Models and Multi-Cloud
- Digital Health at IBM Research: Realizing Personalized Closed-Loop Therapies

MyLearning

To access these resources, go to MyLearning.ccf.org and type "IBM" into the search bar at the top of the page.

Meet your Fellow

Soojin Park

PhD

Where are you from?
I am originally from South Korea. In pursuit of advanced research opportunities and to further my career in science, I moved to the United States last year. Currently, I am a postdoctoral fellow at the Cleveland Clinic's Lerner Research Institute.

What is your educational background?
I obtained my Ph.D. in Metabolomics from Seoul National University in Korea, where I specialized in applying mass spectrometry techniques to uncover metabolic pathways relevant to human health. My doctoral research involved in-depth metabolite profiling to identify biomarkers for metabolic diseases, aiming to improve diagnostic methodologies and therapeutic interventions. Additionally, I dedicated significant efforts to bioinformatics, enhancing my ability to analyze complex datasets effectively.

What did your graduate research focus on?
My graduate research was centered on elucidating the relationships between disease risk factors and the onset of specific diseases and discovering metabolite biomarkers for diagnostic and therapeutic uses. A significant part of my work involved studying how exposure to ultrafine particles could increase susceptibility to Alzheimer's disease by triggering redox imbalances in the hippocampus. Additionally, I identified biomarkers for inflammatory and autoimmune disorders, including a biomarker panel that distinguishes specific diseases from others with similar symptoms and unique metabolic signatures that correlate with disease activity.

How did you decide to pursue your current postdoc at Cleveland Clinic?
I began exploring gut metabolism during my Ph.D., which sparked a growing interest in expanding this line of research. Joining the lab of Dr. Hyun Jung Kim was a strategic decision to dive deeper into this field, utilizing advanced resources and a collaborative environment. I was particularly drawn to the opportunity to integrate metabolomics with gut-on-a-chip technologies, foreseeing the potential to establish a robust system that could significantly advance our understanding of gastrointestinal diseases.

Which lab do you work in and for how long have you been a part of this team?
I joined the lab of Dr. Hyun Jung Kim in the Department of Inflammation and Immunity in September 2023.

What is your current research focus?
My primary research revolves around enhancing drug metabolism predictions using advanced gut-on-a-chip models. This project aims to refine how we predict human drug responses by simulating the complex interactions drugs undergo in the gut and liver and studying the effect of the microbiome on drug metabolism. Alongside this, I'm investigating the role of microbiome interactions in regulating PD-L1 expression in colorectal cancer to improve immunotherapy outcomes. By integrating metabolomic studies with biomimetic microengineering, my work seeks to bring innovative solutions to pressing challenges in pharmacology and cancer treatment.

What do you like to do outside of the laboratory?
Outside the lab, I love to relax by singing and exploring new recipes in the kitchen. I also enjoy exploring local markets, discovering new ingredients, and learning about new food cultures.

Meet your Graduate Student

Vanessa Salazar

Where are you from?
I was born in California but grew up in a suburb outside of Miami, Florida. Both of my parents are Colombian, and I have visited the country every year while growing up.

What is your educational background?
I received a Bachelor's degree from Washington University in St. Louis, majoring in Biochemistry and French. After completing my undergraduate education, I remained at WashU and worked as a research technician in the virology lab of Dr. Michael Diamond. This experience solidified my desire to pursue a career as a physician scientist. In 2018, I joined the Medical Scientist Training Program at Case Western University. After completing the first two years of medical school, I started my doctoral dissertation research in immunology at Cleveland Clinic.

Which lab do you work in and for how long have you been a part of this team?
I have been working in Dr. Thaddeus Stappenbeck's lab in the department of Inflammation and Immunity for about 3 years now. I was already familiar with much of his research since he was a frequent collaborator with the Diamond lab at WashU during his time there. Dr. Stappenbeck's scientific expertise, novel experimental approaches, and numerous interdisciplinary collaborations made his lab an ideal choice to fuel my scientific interests in autoimmunity and its cross-section with pathogens and commensals.

How did you decide on the Cleveland Clinic?
One of the reasons I decided to pursue my MD/PhD training at Case Western was the ability to join a lab at Cleveland Clinic. I have enjoyed being able to work in the research lab in the morning and then work with highly trained clinicians in the afternoon, seeing the very patients my research will hopefully one day impact. The collaborative nature of scientists and physicians allows for streamlined translational research and gives me the opportunity to see the different ways I can shape my career as a future physician scientist..

What is your current research focus?
My current research focuses on how the skin microbiome drives checkpoint inhibitor side effects in a genetically susceptible mouse model. Many patients receiving the newest generation of cancer immunotherapies develop complications related to autoimmune toxicity during treatment. We believe that these individuals can be predisposed to this toxicity due to a combination of their genetics and specific bacteria that reside on their skin. We are particularly interested in understanding how this dynamic can be exploited to decouple toxicity from efficacy in immune checkpoint inhibitor treatment against malignant cancers.

What do you like to do outside of the work?
Outside of work, I enjoy exploring the neighboring Cleveland Metroparks, especially running along the towpath. I love exploring new restaurants and trying out the different breweries in the area. During the warmer months, I like playing sand volleyball at Lakewood park and paddle boarding in Rocky River.

Meet your Alum

Dana Schneeberger

PhD

Interviewed and written by Alan Chen

Dr. Dana Schneeberger obtained her PhD in Regulatory Biology with a concentration in Cellular and Molecular Medicine from Cleveland State University, where she worked in the laboratory of Dr. Christine Moravec from 2006 to 2012. After graduating, she continued to work in the Moravec lab as a Visiting Researcher for almost a year before completing a postdoc under Dr. Giovanni Piedimonte from 2013 to 2015.

As a graduate student in the Moravec lab, Dana studied autonomic dysregulation in end-stage heart failure patients waiting for transplantation. She explored whether these patients could be trained to bring non-voluntary physiologic functions under conscious control using biofeedback-assisted stress management and whether this noninvasive method of autonomic regulation would also improve clinical status and reverse key hallmarks of the heart failure phenotype.

As a postdoc in the Piedimonte lab, Dana studied the interactions between genetic and environmental factors taking place during fetal development and shortly after birth that determine a child's risk for developing chronic airway diseases like asthma. As part of this work, she explored the potential for neurotrophins as a biomarker to help identify premature babies who are likely to have poor long-term respiratory outcomes and therefore require earlier and more intense intervention.

As a trainee at Lerner, Dana presented countless posters, published over 20 abstracts and manuscripts and gave four invited talks. She received multiple graduate student travel awards and a best student paper award. She was also a finalist for the Young Investigator Award at the Bakken Heart-Brain Summit in 2009 and received a Doctoral Dissertation Research Expense Award from Cleveland State University in 2010.

By leveraging her translational research experience, Dana has moved into the clinical research space and is currently a Program Administrator with the Cleveland Clinic Institutional Review Board. Her role in the IRB is multi-faceted, facilitating research while upholding the ethical standards designed to protect the privacy, rights and welfare of human subject research participants. She reviews applications to ensure completeness and compliance with appropriate federal laws and regulations as well as institutional policies. She also provides education to study teams around how to navigate these rules and regulations as they design and conduct their trials. Her favorite part of what she does is learning about all of the clinical research that is being done across the enterprise and knowing that she is providing a meaningful service not only to the organization but also to our patients. Healthcare touches us all – we will all be "the patient" someday – and helping to ensure we are being transparent when it comes to the research we are inviting our patients to participate in is incredibly rewarding.

Meet our LTA member

Lavanya Jain

PhD

What was or is your role within the LTA and how long have you been in undertaking the role?

I served as the Coordinator for the LTA from September 2022 through February 2024.

What has been the most rewarding aspect of serving on the executive board of the trainee association? Can you share a favorite moment or accomplishment from your time in this role?

Serving the trainee population, right from the point of realizing and understanding their needs, to planning and execution of fulfilling those needs, has been the most rewarding aspect of serving on the Executive Board. Starting with no budget or planned events, in the last 1.5 years, we have been successful in establishing a new normal for LTA with monthly or quarterly events being organized regularly now. It is heartwarming to see the recognition LTA has started receiving from trainees and administration alike. My favorite moment being a part of LTA was having members take time out of their busy schedules to come cheer me and my dance team for a Cavs pre-game dance performance earlier this year. It meant so much to me, that moment will always have a special place in my heart! One of my accomplishments during this tenure, other than being one of the forming members of the CBTA, was contributing to the revival of the Communications subcommittee acting as the Interim Chair and to bring it to a point where we have now officially returned to the monthly Newsletter schedule, one of the primary goals at its conception years ago.

How has your experience on the executive board prepared you for future endeavors?

This experience has made me grow constantly both personally and professionally. Getting the opportunity to interact with other trainee organizations from the Cleveland area to form the CBTA, as well as helping organize the inaugural CBTA Professional Development Conference in October 2023, were all new experiences for me. Working closely with RETC as the Executive Board member helped me gain knowledge about the administrative nuances of an association, compelling me to go out of my comfort zone of research. Being a coordinator, I honed my communication skills, be it written or spoken. My role as the Communications Interim Chair helped me develop better writing, editing, and managerial skills. Managing all these roles, along with being a full-time researcher through the week and being a dance instructor as a hobby on weekends, has helped me tremendously with the time management skills too. All these skills are translational, and I am certain will go a long way.

Would you recommend other trainees to take on a position within the executive board?

I cannot recommend becoming an LTA member enough! It is personal for me - I came right after COVID times, and my lab is placed in a building far away from the rest of the LRI. About 90% of the peer-interaction I have is because I either help organize or attend LTA events. We have started one annual and are planning to initiate many more outreach events to give back to the community, which has always been important to me. I am going to remember my time here in LRI not only through my research accomplishments, but also through the skillset I developed and the role I played in serving the trainees and community at large. For any trainee who believes in overall growth, for themselves and the community, should become a member and see how rewarding it is. You can choose the position to volunteer for depending on your bandwidth, but this is a fruitful experience regardless!

Accomplishments

Congratulations to Dr. Sepideh Khazaie from the Baldwin Lab in the Department of Inflammation and Immunity!

Dr. Khazaie recently gave a talk at Heart Rhythm 2024 in Boston, MA and was selected as a finalist (among the top 3 research ideas) of the 4th annual **HRS/AHA William R. Lewis Shark Tank: Hooking Afib**. The title of the talk was "The Association Between Obstructive Sleep Apnea and Outcomes in Patients Hospitalized for Atrial Fibrillation."

Opportunities

FUNDING

- The following research funding opportunities were curated and sent to us from the Philanthropy Institute. If you have any questions about these opportunities or if you would like help with your proposal, please contact Hilary Colles (Gleske), MPH at GLESKEH@ccf.org.

  - **June 14, 2024:** Prevent Cancer Foundation 2024 Fellowship, $100,000/2yrs. To identify and provide seed funding for innovative projects with the potential to make substantial contributions to cancer prevention or early detection. The Foundation defines cancer prevention as the "reduction of cancer incidence through research, education and early detection."

  - **July 1, 2024:** Paralyzed Veterans of America, multiple awards (note - PVA includes MS in their disease focus area). Research Fellowship Award ($150,000/1-3 years). Postdoctoral scientists, clinicians and engineers are eligible (to encourage training and specialization in spinal cord research). Special requirement for all grants – involvement of individuals with lived SCI/D experience; must include at least one individual living with SCI/D, MS or ALS in the development, implementation and evaluation of the project

We love celebrating trainee accomplishments! To submit your own news or to recognize someone else, email
LRITraineeAssoc@ccf.org

Opportunities

GRANT WRITING

- **Working on an F or K award proposal?** The Office of Research Development (ORD) offers a variety of resources to could be helpful, including:
  - Full grant examples of F31, F23, K99 proposals which were funded: ORD grant library
  - F and K specific attachment examples: Grant Sections & Templates
  - On-demand course for F&K proposals from one of our NIH grant-writing consultants
  - Help with process-specific questions: Proposal Development Strategies
  - Have more questions? Reach out to Nicole Brey at breyn@ccf.org.

- **NIH's Helping to End Addiction Long-term (HEAL) Initiative Funding:** HEAL supports research across the continuum of preclinical, translational, clinical, and implementation science. The following funding opportunities have approaching deadlines. Check the HEAL website for all open HEAL funding opportunities.
  - Advanced Postdoctoral-to-Independent Career Transition Award in PAIN and SUD Research (K99/R00 Independent Clinical Trial Not Allowed): Click here.
  - Advanced Postdoctoral-to-Independent Career Transition Award in PAIN and SUD Research (Independent Basic Experimental Studies with Humans Required): click here.
  - Advanced Postdoctoral-to-Independent Career Transition Award in PAIN and SUD Research to Promote Diversity (K99/R00 Independent Basic Experimental Studies with Humans Required): click here.
  - Advanced Postdoctoral-to-Independent Career Transition Award in PAIN and SUD Research to Promote Diversity (K99/R00 Independent Clinical Trial Not Allowed): click here.

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LRITraineeAssoc@ccf.org

Opportunities

CAREER DEVELOPMENT

- **Disrupting Ableism and Advancing STEM | A Year of Reflections and Actions:** June 10th from 1 – 2:30PM. The National Academies of Sciences, Engineering and Medicine (NASEM) will host an anniversary webinar which will build on the transformational conversation series about accessibility and inclusivity in the STEM ecosystem.

- **Save the date | NIH Scientific Workforce Diversity Seminar Series (SWDSS):** June 20th. SWDSS will host the final session of the 2023-2024 season titled, "How Are Institutions Transformed to Foster Cultures of Inclusive Excellence?" The session will discuss strategies to enhance inclusion and create a culture of equity within the scientific workforce at academic institutions and methods for assessing culture change.

AWARDS

- **The Dr. Sylvain Brunet Award for Outstanding Accomplishment by a Graduate Student** recognizes a graduate student who has achieved a significant accomplishment in their training. This award was established in loving memory of Dr. Brunet and commemorates his commitment to furthering research education opportunities for junior investigators. Two Brunet Awards will be presented: one award for a junior graduate student and one for a senior graduate student. The awardees will each receive a plaque, a cash prize and recognition at the LRI Awards for Excellence ceremony in August. Apply by **June 7th at 11:59PM.** Send questions to Dr. Jason Ross (rossj12@ccf.org). See flyer for more information. Access the submission form here.

- **2024 Graduate Student Awards for Excellence:** Awardees receive a plaque, a cash prize and recognition at the LRI Awards for Excellence ceremony in August. Apply by **June 7th at 11:59PM.** Send questions to Dr. Jason Ross (rossj12@ccf.org). See flyer for more information. Access the submission form here.

We love celebrating trainee accomplishments! To submit your own news or to recognize someone else, email

LRITraineeAssoc@ccf.org

Monthly feature

CCF Innovations

Happy Spring LRI Trainees (finally, it is actually Spring)! Cleveland Clinic Innovations (CCI) is the commercialization arm and tech transfer office of the Cleveland Clinic. For this issue, we wanted to introduce the topic of Patents. Patents are one way our office may protect intellectual property. As a reminder from last month, if you or your lab believes you have a technology that could be commercialized, it is strongly recommended that an invention disclosure form (IDF) be completed around that technology and sent to the Innovations office. Part of our innovations process is to assess if the technology may be eligible for a patent or other types of intellectual property protection. (Please note, the IDF itself does not serve as a patent or any type of IP protection).

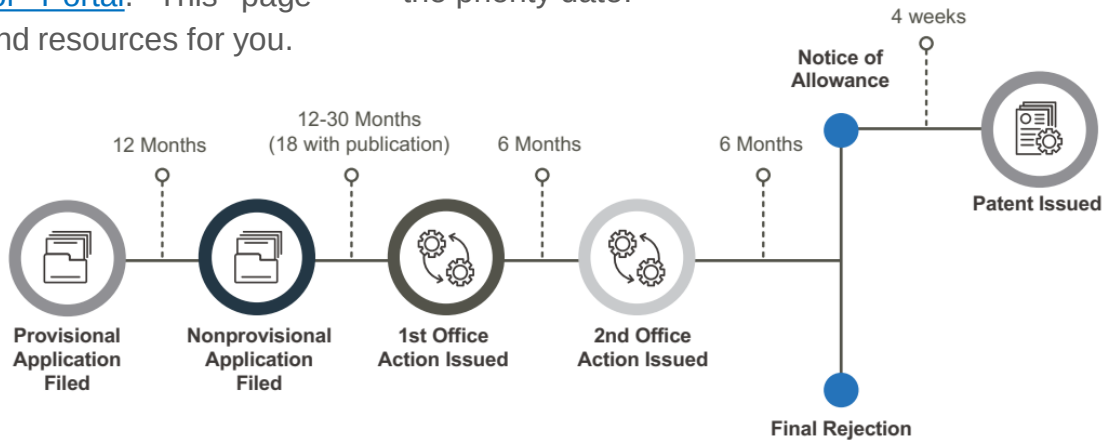
If you have further questions on this topic and/or would like to connect on anything innovations related, please reach out to your LRI Engagement Partners (Morgan Carter, PhD and Matt Koletsky, MS as leads for Therapeutics and Diagnostics, Nicole Byram as lead for Medical Device, and Michelle Leung as lead for Digital Health). We are here for any questions and/or to discuss the innovations process or ideas you may have. The invention disclosure form (IDF) can be found on our new Inventor Portal. This page also has lots of information and resources for you.

UNDERSTANDING PATENTS

A patent is a legal document that excludes others from commercializing (making, using, offering for sale, selling, or importing) an invention. Patents protect intellectual property (IP) for 20 years. The first to file a patent application for an invention is entitled to the patent rights. Patent applications must describe:

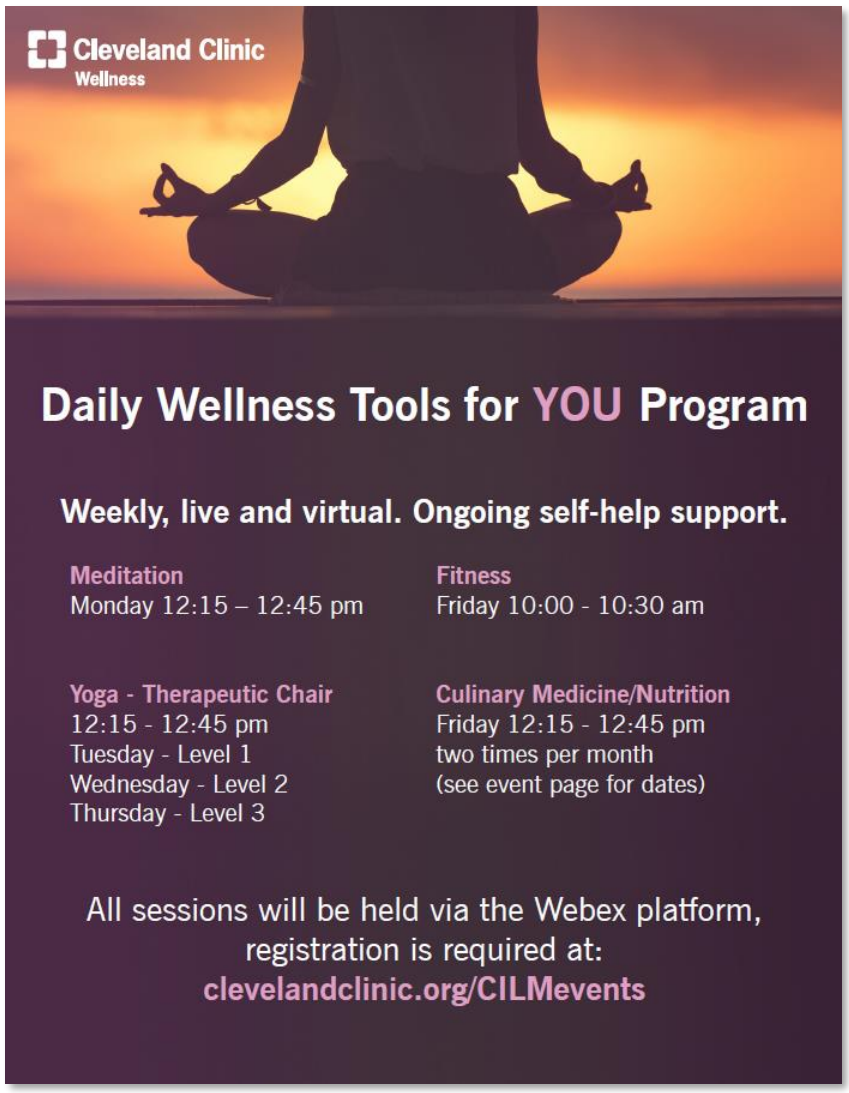
1. Every structural element of the invention that is claimed. Drawing(s), if applicable, should be included.
2. What makes the invention novel, useful, and distinguishes the invention from prior art (non-obviousness).
3. The invention in sufficient detail so that one skilled in the art can make and use the invention (enablement).
4. The type of patent application determines filing date, fees owned, lifespan/publication date, and the review process of the invention. The primary types of patent applications used by Cleveland Clinic Innovations are:

- *Provisional Patent Application*: A place holder application to establish an early effective filing date in a later filed nonprovisional patent application. (spans 1 year)
- *Nonprovisional (Utility) Patent Application*: Examined by the USPTO, this application is assessed through the patent prosecution process and can take 2.5-5 years. (spans 20 years)
- *Design*: An application protecting the way an article looks. (spans 15 years)
- *PCT Application*: An international application that allows a delay of 30-31 months for seeking patent protection in different jurisdictions, while preserving the priority date.



Example of a United States Patent Prosecution Timeline (3-5 years total)

Wellness Resources



Join in on live virtual Yoga, Mediation, Fitness and Culinary Medicine sessions. These are available for free to all caregivers. All sessions will be held via the Webex platform, registration is required at: http://clevelandclinic.org/CILMevents

Graduate Students are welcome to join!

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 domestic violence. Email the committee at: dvcommittee@ccf.org

Behind the Scenes

This newsletter is written by the Communications teams of the Lerner Trainee Association Leadership Council and fellow trainees. We welcome your questions and suggestions!

Email LRITraineeAssoc@ccf.org to connect with us.

LTA Communications Team
Jason Ross, Nam Than, William (BJ) Massey, Swapnil Dey, Susan Afolabi, Julia Myers, Lavanya Jain

Lerner Trainee Association Leadership Council

Executive Board
Co-Presidents: Jia Liu, Hope Zehr
Coordinator: Molly Guthrie
Treasurer: Noah Dubasik
Advisors: Edward Carson, Lavanya Jain, Jason Ross

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Members: Pooneh Koochaki, Mary Vincent
Advisor: Sumit Bhutada

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Co-Chair: Nam Than
Members: William (BJ) Massey, Swapnil Dey, Susan Afolabi, Julia Myers

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Members: Omer Onur

Social/Outreach
Co-Chairs: Daniela Duarte Bateman, Kristen Kay
Members: Zaida Laventure, Naoko Uno, Mary Jo Talley, Maximilian Strobl, Rachel Hohe, Lavanya Jain
Instagram: ClevelandPetriDish