

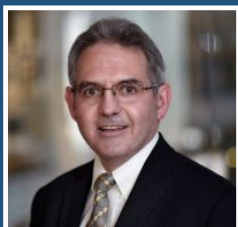
THE CTRID INSIDER

Issue No. 2 | December 2022



Newsletter by Eva Plezia, CTRID Research Communications Coordinator

Message from the Director



**Rolando Rumbaut,
MD, PhD**

Director,
Center for Translational Research
on Inflammatory Diseases (CTRID)

Dear all,

We are delighted to share the latest edition of the CTRID Newsletter, including significant achievements by CTRID faculty and trainees. As outlined in the newsletter, our center has made great progress in 2022, and we look forward to the exciting CTRID 10-year anniversary symposium on March 31, 2023. I wish you and your families a safe and joyful holiday season and look forward to a wonderful 2023!

Best regards,

Rolando E. Rumbaut, M.D., Ph.D.
Director, Center for Translational Research on Inflammatory Diseases (CTRID)

Building 109 Inside Scoop

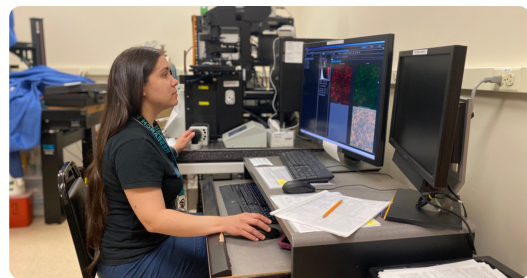
CTRID's Core Equipment Corner

Olympus® Fluoview FV3000

The Olympus® Fluoview FV3000 is a super resolution laser scanning confocal microscopy system available for use in CTRID's Microscopy Core that was acquired through a VA Shared Equipment Evaluation Program (ShEEP) award and is located in Building 109, Room 146. This state-of-the-art microscopy system provides the ability to obtain microscopy images of cellular and subcellular events with unprecedented resolution (up to 120 nm), which is useful for studying diseases common in Veterans, including bleeding disorders, blood clots, diabetes mellitus, and chronic kidney disease, among others.

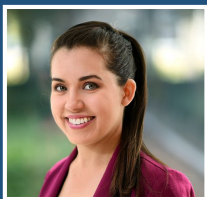
The Fluoview FV3000 obtains microscopy images with exquisite detail, bridging the gap between conventional microscopy and electron microscopy. This super resolution system contains 7 solid-state lasers, which facilitate simultaneous imaging of a broad array of cellular targets identified with fluorescent dyes of distinct excitation/emission

spectra, a hybrid scanner, suitable for high-definition or high-speed imaging on a single system, and a range of microscope objectives from 1.25x to 100x, including silicone oil objectives, which provide enhanced resolution for tissues. Further, the high numerical aperture silicone oil objectives, inverted microscope design, and temperature, humidity, and carbon dioxide-controlled incubation chamber, make the Fluoview FV3000 particularly helpful for studies on cultured cells.



CTRID trainee, Marina Martinez-Vargas, Ph.D., analyzing images taken by the Fluoview FV3000.

For additional information or to schedule use for this system or any other shared equipment in CTRID's Cores, contact Dr. Qisheng Liu at Qisheng.Liu@bcm.edu.



Member Spotlight

**Marina Martinez-Vargas,
PhD
CTRID Trainee**

Marina Martinez-Vargas, PhD is a CTRID trainee and is currently mentored by Dr. Miguel Cruz. Last month, Dr. Martinez-Vargas won 3rd place at the 8th Annual MEDVAMC Poster Session with her presentation, "Studies on Traumatic Brain Injury: Fragments of VWF Regulate the Expression of Adhesion Molecules and Modulate Vascular Permeability in Stimulated Endothelial Cells." Additionally, she has recently submitted a VA-ORD BLR&D Career Development Award, titled "Role of Von Willebrand Factor in Vascular Permeability in Traumatic Brain Injury", which is currently under review. Finally, Dr. Martinez-Vargas gave birth to twin girls, Amaia and Amelia, on October 20, 2022. Congratulations, Dr. Martinez-Vargas!



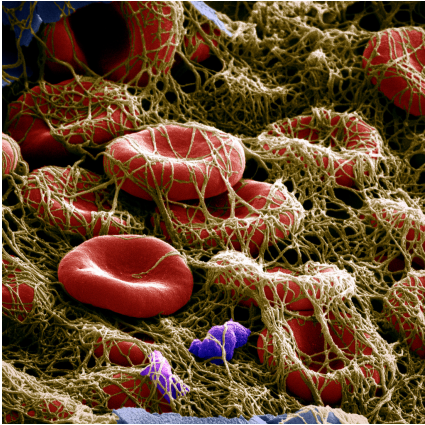
Laura Petersen, MD, MPH (left) and Rolando Rumbaut, MD, PhD (right) presenting 3rd place win to Marina Martinez-Vargas, PhD.

Have something to share about yourself or another CTRID member? Please email your request to Eva.Plezia@bcm.edu to be featured in future editions.

What's New with You?

Justin Courson Wins Second Place in Imaging Contest

Dr. Justin Courson recently won second place in the Basic Research category of this year's MicroWorld Image Contest. His winning image, titled *Fields of Blood*, was captured using a scanning electron microscope and pseudo-colored in post (20 x 20 μm).



This image depicts a field of red blood cells (red) found amongst cellular debris (blue) and covered in a thick layer of fibrin (brown). While this is considered to be a fibrin-rich clot, a pair of platelets (magenta) can still be seen peeking through the tangle in the bottom-most region of the image. Great work, Dr. Courson!

Did You Know?

December and the American Lung Association (ALA) Christmas Seals Campaign

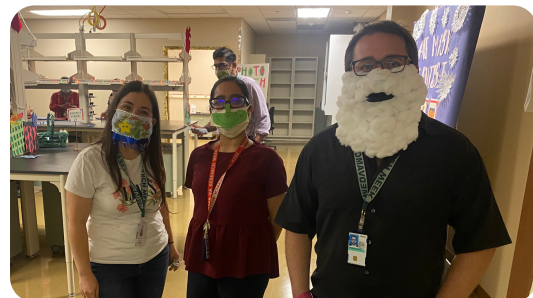


The ALA Christmas Seals Campaign began in 1907, when veteran fundraiser Emily Bissell designed and printed special holiday stamps to sell at the post office in effort to raise money for a sanatorium that treated tuberculosis, the then-leading cause of death in the United States. This movement started the "Christmas Seals Campaign," and since then, its mission has spread to raise money for the American Lung Association. The campaign continues to sell theme-oriented stamps every year in December. [You can check out their gallery of stamps here](#), which date all the way back to the 1920s.

Save the Date: Research Land Annual Holiday Potluck

We are excited to host this year's annual Holiday Potluck in-person* on **Thursday, December 15th** from 12:00 PM to 2:00 PM in Building 109, Rooms 211 and 208! This year's theme will be Research Land (Candyland themed).

Notoriously, our holiday potluck has been filled with tasty dishes, fun contests, and most importantly, our great research community. Come join us in Research Land and enjoy home-made foods, a Candyland photo booth, and our festive competitions, including a Stocking Design Contest and a Candy Jar Guessing Game. Winners will receive a prize for each game!



2021 Crush COVID Annual Holiday Potluck featuring meal pick-ups and a mask decoration contest.

If you would like to attend or have any questions, please contact Eva Plezia at Eva.Plezia@bcm.edu or Kimberly Langlois at langlois@bcm.edu. We look forward to seeing you in Research Land!

*(To keep us safe and healthy, this year's holiday potluck will feature a "come-and-go, drive-thru" format in which attendees can grab food and participate in games in a social-distanced style. Please take all precautions to social distance and wear a mask at all times.)

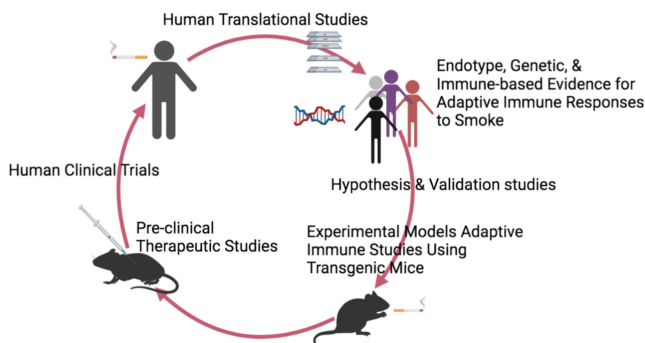
Funding and Research

High Impact Highlights



Farah Kheradmand, MD & David Corry, MD **Contributions of Acquired Immunity to the Development of COPD in Humans and Animal Models. *Physiological Reviews*, 2022.**

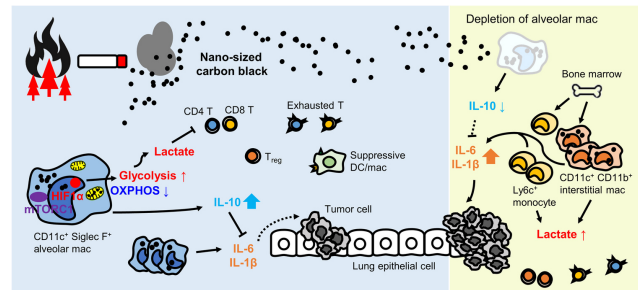
Dr. Farrah Kheradmand and Dr. David Corry recently published an [article](#) discussing the role of adaptive immunity in COPD pathophysiology, focusing on early progression and exacerbation of the disease. The article was published in *Physiological Reviews*, a journal with a high impact factor of 37.31. The authors note that one of the many challenges inhibiting a better understanding of cigarette smoke-induced pathogenesis of COPD includes, "the need to develop an efficient animal model that faithfully replicates the natural history, pathological features, and comorbidities of human COPD" (Kheradmand, et al., 2022). Recent applications including "induced pluripotent stem cells and in vitro generation of complex organoids" (Kheradmand, et al., 2022) could substantially address the solution to these challenges.



Kheradmand, et al. Abstract graphic: Using human translational studies and animal models of emphysema to determine how smoke exposure initiates and orchestrates adaptive autoreactive inflammation in the lungs.

Chronic Exposure to Carbon Black Ultrafine Particles Reprograms Macrophage Metabolism and Accelerates Lung Cancer. *Science Advances*, 2022.

In another [study](#) conducted by Dr. Farrah Kheradmand and Dr. David Corry, Chang et al. investigated whether and how chronic exposure to airborne carbon black ultrafine (nCB) particles affect the immune response to lung cancer. Results indicated that "exposure to nCB particles increased PD-L1+ PD-L2+ CD206+ antigen-presenting cells (APCs), exhausted T cells, and Treg cells," highlighting that nCB promotes an environment for lung cancer to invade earlier and more aggressively.



Chang, et al. Summary model: nCB reprograms CD11c+ lung macrophages to accelerate cancer.

The authors also found that macrophages in the lung "sustained the HIF1α axis that increased glycolysis and lactate production, culminating in an immunosuppressive microenvironment in multiple mouse models of non-small cell lung cancers," (Chang et al., 2022). These findings depict how exposure to nCB particles promote lung macrophage metabolic rewiring to support immunosuppression and catalyze lung cancer development. This article was published by *Science Advances*, which has a high impact factor of 14.14. Great work, Dr. Kheradmand and Dr. Corry!

If you have a publication that you would like featured in the next newsletter, please email your request to Eva.Pleziq@bcm.edu.

Funding and Research

Congratulations to Our Recently Funded Researchers!



Congratulations to these CTRID members who were recently funded:

Name	Title	Source	Amount
Swapnan Dasgupta, PhD, MSc	The Protective Role of β 2-Glycoprotein I in Sepsis	MEDVAMC Seed Award	\$37,473
Maria Rodriguez-Barradas, MD	Veterans Affairs Science and Health Initiative to Combat Infectious and Emerging Life-Threatening Diseases (VA SHIELD) Collection Site	Veterans Affairs Office of Research Development	\$209,526
David Sheikh-Hamad, MD	Megalyn and Transition from AKI to CKD	MEDVAMC Bridge Award	\$50,000
Perumal Thiagarajan, MD	Thrombosis with Antiphospholipid Antibodies	MEDVAMC Bridge Award	\$50,000
Vinod Vijayan, PhD and Ramiro Salas, PhD	Platelet Mitochondria in Suicidal Ideation	MEDVAMC Seed Award	\$25,479

Trainee Publications

Recent publications by our trainees at CTRID:*

**CTRID trainees are indicated in yellow, while CTRID members are underlined*



Courson, J. A., Langlois, K.W., & Lam, F.W. (in press). Intravital Microscopy to Study Platelet-Leukocyte-Endothelial Interactions in the Mouse Liver. *Journal of Visualized Experiments.*

	Upcoming Events	
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**CENTER FOR TRANSLATIONAL RESEARCH
ON INFLAMMATORY DISEASES**



10th Anniversary Symposium

March 31, 2023

**Save the Date: CTRID's 10th Anniversary Symposium
Friday, March 31, 2023**

Mark your calendars for CTRID's 10th Anniversary Symposium celebration taking place on March 31, 2023! We invite you to attend this in-person event featuring a morning plenary session and luncheon at the Hilton Garden Inn*, followed by an afternoon poster session and renovation reveal in Building 109*. **We invite all VA Scientists (including trainees and project team members) to join us and submit posters for presentations at this exciting event.** This occasion will offer our researchers a chance to meet and share the great science we are doing on and off-campus.

Registration information for poster session submissions will be sent out at a future date. If you have any questions about this event, please contact Eva Plezia at Eva.Plezia@bcm.edu for more information. We look forward to your participation and celebrating 10 years of research together!

(*This year's poster session is planned to be held in person but may be converted to a virtual event dependent on local medical center COVID guidance).

Upcoming Events

Looking Ahead

Upcoming CTRID Events and Webinars

Seminar

Thursday, December 8, 2022

Heidi B. Kaplan, PhD
Meeting ID 977 8997 3546.

Journal Club

Thursday, December 8, 2022

Andrew Yee, PhD
Meeting ID 354 120 914.

Seminar

Thursday, December 15, 2022

Fong Lam, MD, FAAP
Meeting ID 917 4991 6642.

Seminar

Thursday, January 5, 2023

TBA
Meeting ID to be announced.

Click [here](#) for the latest updates to our seminar schedule.



IRBNET OFFICE HOURS: NOW MEETS ON TUESDAYS, 2-3 PM

Weekly IRBNet Training will now be held on Tuesdays from 2 - 3 p.m. While this training will focus on project coversheet completion, approval workflow, and an IRBNet demo, we are always available for Q&A towards the end of the training.

You can find Zoom Access meeting information below, or through the [BCM Intranet](#) and VA SharePoint. If you have questions, reach out to us at VHAHOURS_IRBNetSubmission@va.gov. We look forward to meeting with you during our new day/time!

Additionally, if you have a chance prior to the training and do not already have an existing account, visit <https://gov.irbnet.org> and click "Register Now" to create a new account prior to our meeting.



AND DON'T MISS...

NANCY CHANG, PhD RESEARCH SYMPOSIUM

*Cullen Auditorium, followed
by a Poster Session at
the Rayzor Lounge*

Monday, February 27, 2023

9:00 AM - 3:00 PM

DEPARTMENT OF MEDICINE INAUGURAL RESEARCH CONFERENCE

*Kleberg Auditorium, followed
by a Poster Session at
Michael E. DeBakey Center,
M112*

Tuesday, May 2, 2023

8:00 AM - 4:30 PM

Have something to share? Please email your request to Eva.Plezia@bcm.edu to be featured in the next edition of the newsletter.

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