TV CORE

July 2025 *Monthly Newsletter*

RENATO BOBADILLA LEON

We're excited to introduce a new member of our team, Dr. Renato Gianfranco Bobadilla Leon!
Renato is originally from Trujillo, Peru, where he completed medical school at the Universidad Nacional de Trujillo. After graduating, he moved to the U.S. to pursue further training, completing his Internal Medicine residency at Saint Barnabas Hospital in the Bronx, New York.
Before starting residency, Renato worked as a sub-investigator on several clinical trials through the HVTN/HTPN network, an experience that sparked his lasting interest in HIV medicine and clinical research. That early exposure to the research side of medicine has continued to shape his career path.
Following residency, he worked as an academic hospitalist, a role that introduced him to the world of medical education. He found himself really enjoying the teaching aspect of medicine which is something he continues to value today. Currently, Renato is in the Infectious Diseases Fellowship at UC San Diego. He recently finished his first year, which focused on clinical training, and just started the research portion of his fellowship this July. He's looking forward to deepening his work in infectious disease research while continuing to grow as a physician and educator.
Outside of work, Renato likes to stay active. He enjoys playing basketball and swimming whenever he gets the chance—two hobbies that help him unwind and stay balanced.
Welcome to the team Renato! We are so excited to have you and see everything you accomplish.

PROJECT HIGHLIGHT

doi.org/10.1038/s41467-025-60001-2

The study **"Efficient mRNA delivery to resting T cells to reverse HIV latency"** presents a novel approach to targeting the persistent reservoir of latent HIV in resting CD4+ T cells, a key barrier to curing HIV. Researchers developed a new lipid nanoparticle (LNP), called LNP X, which effectively delivers mRNA to non-activated (resting) primary CD4+ T cells, an achievement that has long been a challenge due to these cells' resistance to transfection. LNP X was shown to be non-toxic and more potent than existing LNPs, due to its enhanced cellular association and protein translation, rather than improved endosomal escape.

The team used LNP X to deliver mRNA encoding HIV Tat, a protein that activates viral transcription, and found it potently reversed HIV latency in cells from people living with HIV on antiretroviral therapy (ART), inducing a broader set of HIV transcripts than conventional latency-reversing agents (LRAs), without activating the T cells or causing toxicity. Additionally, LNP X was able to deliver complex CRISPR activation machinery (CRISPRa) to T cells, which selectively reactivated HIV gene expression without off-target effects. While Tat-LNP X was more potent than CRISPRa-LNP X in inducing HIV transcription and virion production, both strategies demonstrated promise.

The study concludes that LNP X represents a breakthrough in delivering genetic therapies to resting T cells, with significant implications not only for HIV cure strategies but also for broader T cell-targeted gene therapies. Future work is needed to test this technology in vivo, evaluate long-term safety, and combine latency reversal with other approaches to eliminate reactivated HIV-infected cells.

QUOTES FROM "THE COST OF SILENCE: A CALL TO PROTECT THE FUTURE OF HIV RESEARCH AND CARE"

"Our history proves that people living with HIV are not victims – they are leaders. Every advancement in HIV was won by those refused to be silent." – **Jeff Taylor,** Long-Term Survivor and Community Advocate

"The cuts and changes to our public health system including HIV Research networks is an all-out ideological assault to shutting out the diversity of community input voices and engagement." – **Derrick Mapp**, Long-Term Survivor and Community Advocate

UC SAN DIEGO RECOGNIZES CHERYL

Cheryl Dullano, a cornerstone of the division's operations and the Last Gift rapid autopsy program, was honored with the Principal Employee of the Year Award, one of UC San Diego's most prestigious staff honors. This highly competitive award recognizes exceptional dedication, leadership, and service. Beyond her outstanding administrative and operational skills, Cheryl is celebrated for her generosity, mentorship, and unwavering support of colleagues and research participants alike. Her recognition underscores the vital role she plays in enabling the division's complex research endeavors to succeed.

Her nomination highlights her unmatched empathy, compassion, and commitment:

She forms authentic, lasting connections with participants and their families, is available 24/7 to honor their wishes, and represents our program with grace and dignity in even the most difficult moments.

Cheryl reflected on the honor in her own words:

"Being named Principal Exemplary Staff Employee of the Year is one of the greatest honors of my career. I accept it with immense gratitude and humility. Through my work with The Last Gift, a study involving tissue donation from terminally ill participants, this has become more than a job. It is my vocation. It is a privilege to walk alongside individuals and their families in the final chapter of life, bearing witness to their generosity, their bravery, and their desire to leave a legacy that will help others. They are the true heroes of this work. This recognition is not just mine. It reflects the heart of a team that shows up, day or night, to honor the wishes of those who trust us with their final gift. It belongs to every participant, past and present, who gave selflessly in the name of research to further science and hope. I carry them with me always, and I accept this honor in their name."

CONTINUING THE INTRODUCTION OF OUR SUMMER STUDENTS!

GABRIELA

Hello everyone! My name is Gabriella "Gabby" Esparza, and I am from the low desert of Southern California.

I recently just graduated from UCSD with a Bachelors in Human Biology and minor in Global Health. I plan to pursue a career in Physical Therapy, specifically Sports Medicine.

ERIC

Hello, my name is Eric Santana, and I am a 2nd year Veterinary Student at Western University of Health and Sciences! I am originally from Palm Springs, California and I graduated from a small school in Iowa with a BA in Biochemistry!

I love working with small animals and I hope to pursue small animal medicine with an emphasis in internal medicine. Outside of the lab and school, I love to be outdoors, going to concerts, reading, and visiting coffee shops.

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SARA GIANELLA, MD – VICE CHIEF OF BASIC AND TRANSLATIONAL RESEARCH

As the new Vice Chief of Basic and Translational Research in the Division of Infectious Diseases and Global Public Health at UC San Diego, Dr. Sara Gianella provides strategic leadership to advance the division's scientific portfolio. In this role, she oversees a diverse array of basic science and translational programs, supports investigators in developing innovative research agendas, and drives collaborative initiatives that bridge laboratory discoveries with clinical impact. Dr. Gianella will also continue to serve as Division Mentorship Director, remaining deeply committed to fostering mentorship and professional growth across the division. She is excited to support the division during these challenging times, working closely with the leadership team to secure resources, mentor emerging scientists, and foster an environment where cutting-edge science continues to thrive.

SHOUTOUT!

Our first congratulations go to Cheryl and Sara whose recent achievements are listed above! There is an online ceremony where Cheryl will be honored with her award on September 4.

Congratulations to Elizabeth (Lizzy) Hastie, a new amfAR Research Awardee! Lizzie, currently an MSP (Medical Staff Physician) in the division and soon to be promoted to faculty, was recently awarded a highly competitive amfAR Research Grant. This prestigious award recognizes her groundbreaking work to understand the role of gender-affirming care on the immune system of transgender women and provides support for her innovative studies that push the boundaries of HIV cure research. Her success reflects both her scientific excellence and the division's commitment to transformative HIV research.

Gemma's birthday is coming up on August 28th!

Lastly, a warm welcome to new team members: Alfonso, Renato, and Finn