

TV CORE

August 2024

Monthly Newsletter



KAROLE IGNACIO

Karole has been a member of our lab for the past 40 years, starting under Dr. Richman as an SRA 1 in June 1984 just after graduating from UCSD with a bachelors in August of 1983. Before that, she worked in a lab at Salk and did not know much about HIV (no one really did!).

Karole's career has not only helped further the scientific endeavors of our lab, but she has also trained many visiting postdocs and fellows from around the world who have gone on to start their own labs that she hopes to visit one day. She says that when she retires, she would like to travel to many different countries around the world.

When outside of the lab, Karole enjoys spending as much time as possible with her 3 grandkids. She enjoys reading (physical books only!) and on the weekends wakes up early to "take a long walk and enjoy my surroundings." She enjoys watching movies, as long as she is entertained, and especially fills her time doing family stuff on weekends. As she says, she has a big family and there is always something to celebrate. The photo Karole provided is from her cousin's Navy retirement ceremony in Washington D.C. !

Karole, the impact you have had on our lab is undeniable and can never be replicated. We can never thank you enough for all you have done for us and CONTINUE to do for us!

PROJECT HIGHLIGHT

"Gene expression and chromatin conformation of microglia in virally suppressed people with HIV" explores the persistence of HIV in the brain, specifically in microglia, despite antiretroviral therapy. The study uses samples from the "Last Gift" rapid autopsy program to investigate microglial gene expression and chromatin accessibility in people with HIV.

Key findings:

- 1. Microglial Heterogeneity:** Microglia showed diverse gene expression profiles but similar chromatin accessibility. Six distinct microglial subpopulations were identified, with some showing inflammatory and interferon-responsive phenotypes.
- 2. HIV Persistence:** A small percentage (~0.005%) of microglia contained HIV RNA and DNA, indicating that HIV can persist in the brain even under ART. HIV RNA+ microglia showed up-regulation of interferon-responsive genes and down-regulation of genes related to synaptic and neuronal functions.
- 3. Chromatin Accessibility:** The study found that certain transcription factors (e.g., PU.1/ETS) are crucial for maintaining microglial identity, but the chromatin landscape was more heterogeneous between individuals.
- 4. Implications for Cure Strategies:** The findings suggest that microglia serve as a reservoir for HIV in the brain, contributing to neurocognitive impairment. Effective HIV cure strategies must consider the role of microglia and the myeloid compartment in the central nervous system.

The study emphasizes the need for new technologies to further understand HIV persistence in brain tissue and highlights the challenges in detecting and targeting these reservoirs.

Sara G. and Victor



LOOKING FORWARD

The lab will be closed on Monday, September 2 in observance of Labor Day.

39 years ago on September 17, President Ronald Reagan mentioned AIDS publicly for the first time, calling it a "top priority". This came 4 years after the CDC initially recognized the epidemic during which over 12,000 people (mostly gay men) had already lost their lives. The slogan at that time, associated with the growing awareness and activism around the AIDS crisis, was "Silence = Death." This phrase became a powerful symbol of the urgency for action and acknowledgment of the epidemic, particularly in response to the lack of government and public response in the early years."

September 16 is Mexican Independence Day!

TRY SOMETHING NEW!

Regular baseball season ends when October begins and we in San Diego are lucky enough to have our own team to root for. Go Padres!

In the month of September, the Padres have 12 home games to choose from at our local Petco Park. Tickets can start as low as \$7. The visiting teams for September include the Detroit Tigers, Houston Astros, and the Chicago White Sox.

This month's Try Something New is to watch or go to a new sporting event!

More into soccer/fútbol? San Diego is home to both a women's and men's professional soccer team. The San Diego Loyal SC is part of the United Soccer League which is the biggest professional soccer organization in the United States. The women's team, San Diego Wave FC, features world famous players such as Alex Morgan and competes in the National Women's Soccer League where they are currently ranked #10.

College football also returns at the end of August. Head down to San Diego State University to see the Division I NCAA Aztecs try to beat their 4-8 record from last season.



TEAM BUILDING

Thank you to everyone who attended our sip and paint team building on Tuesday August 6! Around the newsletter are pictures from the event.



SHOUTOUT!

We would like to wish a very happy birthday to Gemma (8/28)!

On Monday, August 26th we celebrated Gemma's 60th birthday with a party! Below are photographs from the celebration.

We are also thrilled to announce that "Dr. Doug Richman has been selected as a recipient of the prestigious 2024 Revelle Medal. This distinguished honor recognizes his sustained and extraordinary service to UC San Diego and his remarkable contributions to the campus community."

